RAILROAD

MAGAZINE | AUGUST 50c

Q.1.M hs
1957

FROM WHALE-OIL TO CTC

THE STORY OF TRACKSIDE SIGNALS

127.1 MILES AN HOUR

Steam's Greatest Triumph

GOOD-BYE, GANDY DANCERS!

A SECTION BOSS DISCUSSES MODERN POWER MACHINES

GOOD JOBS WAITING

...for the Young in Heart!

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Photographed at New York's Famous Essex House

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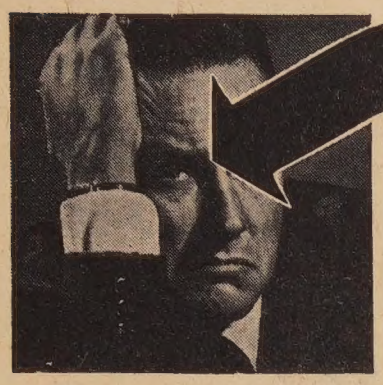

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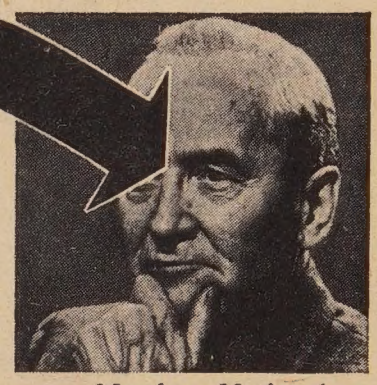

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RAILROAD MAGAZINE

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VOL. 68, NO. 5 AUGUST 1957 50 CENTS

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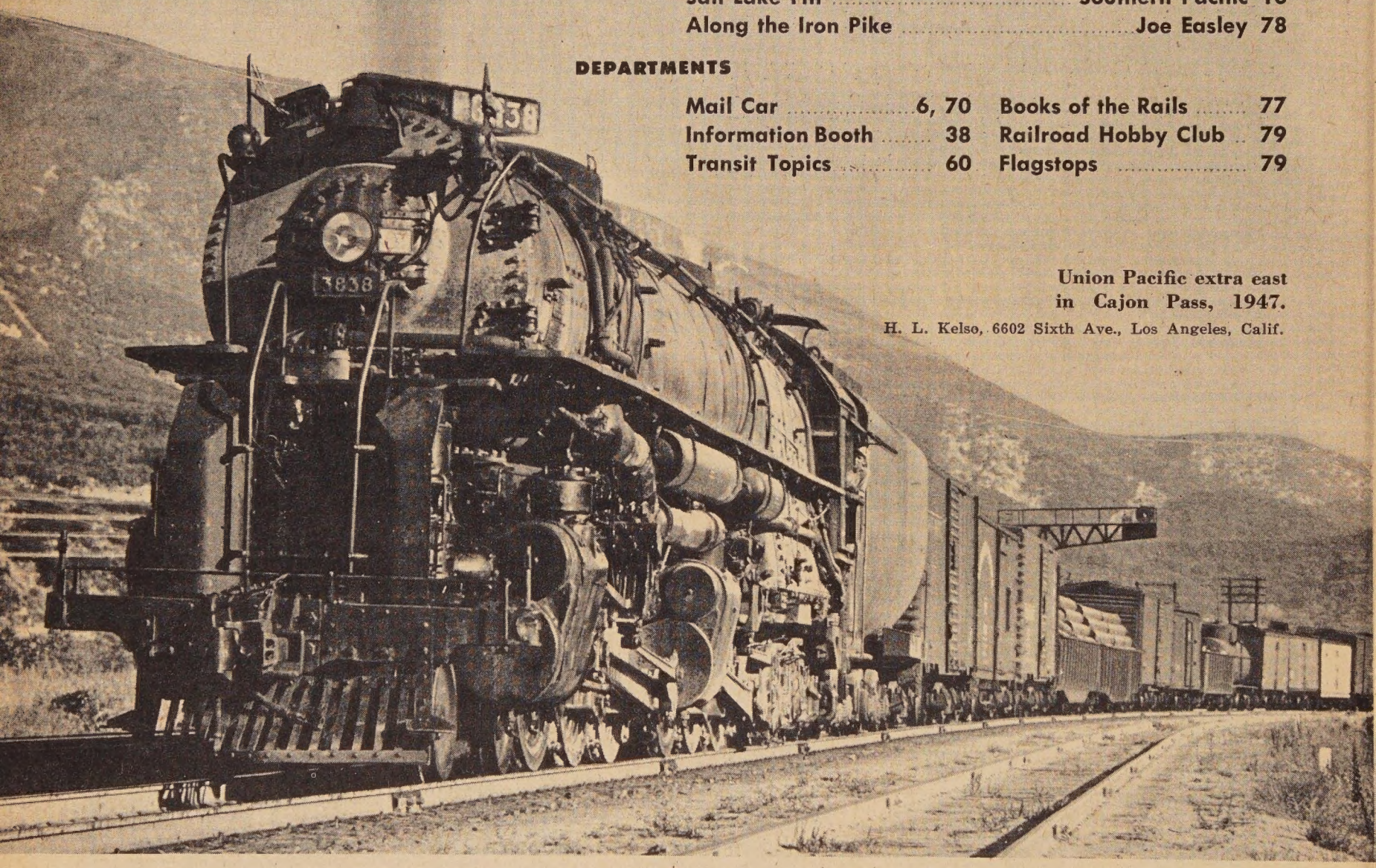

Union Pacific extra east in Cajon Pass, 1947.
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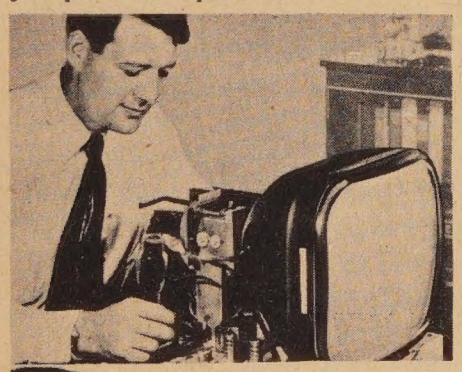

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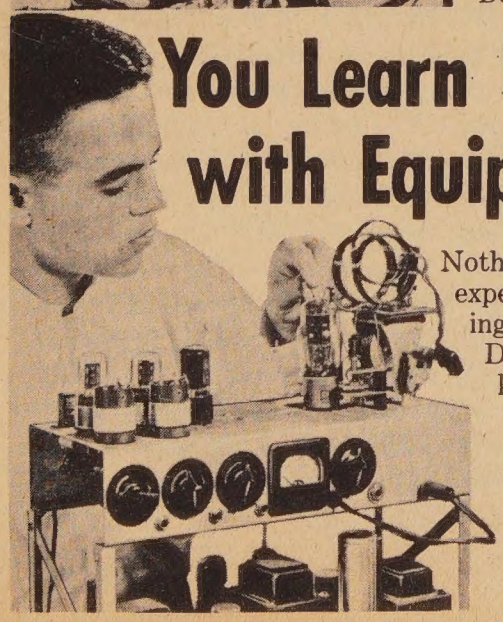
"I have a regular job as a police captain and also have a good spare time Radio and Television service business. Just opened my new showrooms and shop."—C. W. LEWIS, Pensacola, Florida.

"I decided to quit my job and do TV work full time. I love my work and am doing all right. If fellows knew what a wonderful investment NRI is, they would not hesitate."—W. F. KLINE, Cincinnati, Ohio.

"Thanks to NRI, I operated a successful Radio repair shop. Then I got a job with WPAQ, later WBOB and now am an engineer for WHPE."—VAN W. WORKMAN, High Point, N. Carolina.



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MAIL CAR

Running Orders, Waybills, and Sandhouse Gossip—from Railroaders, Fans, and the Editorial Crew

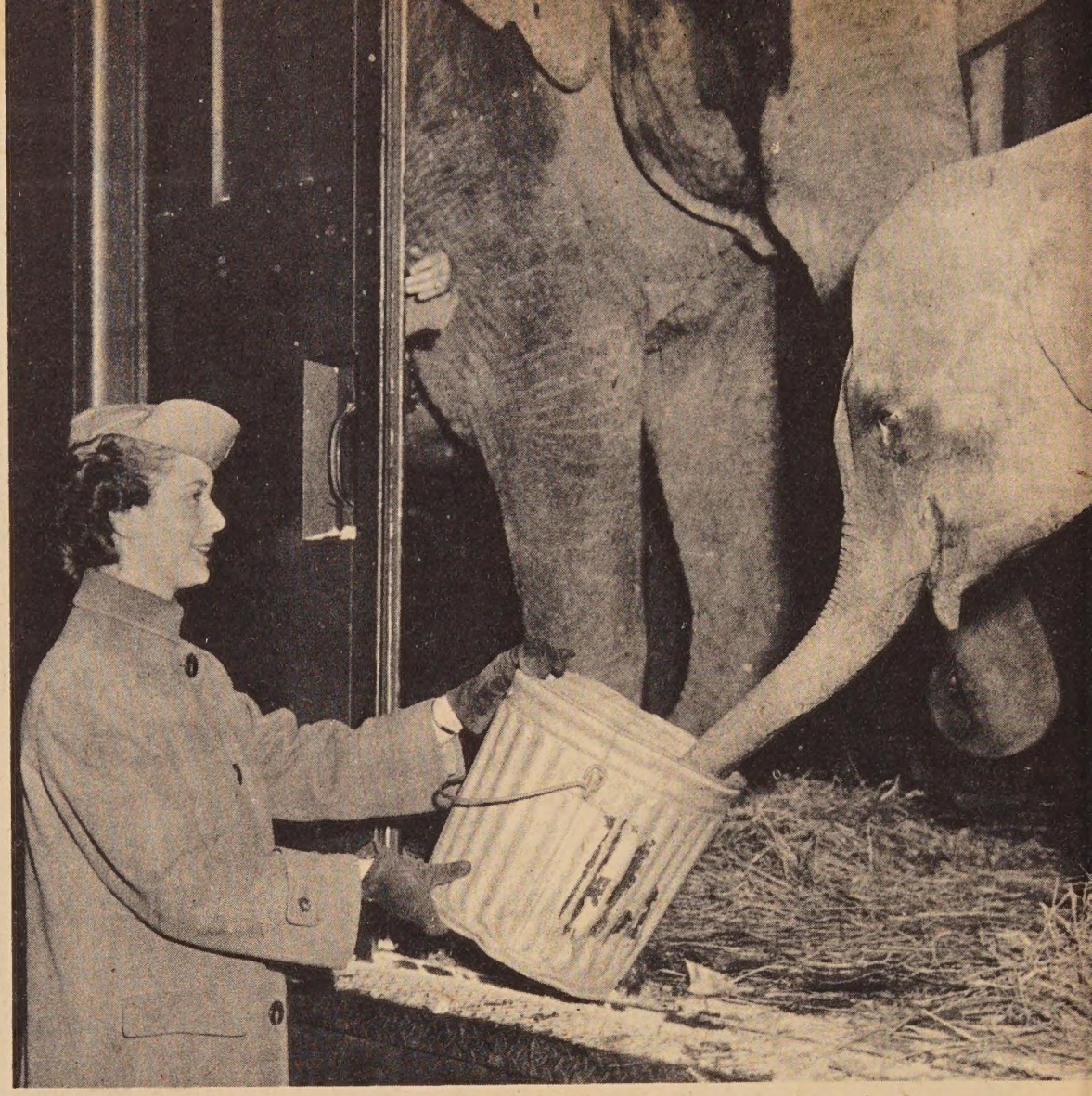
FRONT COVER, showing a Norfolk & Western signal maintainer at work, was made from an Ektachrome by Bryan Beard, N&W master photographer. ●

PRESENT-DAY operation should be stressed to a greater extent in articles, stories, and pictures if *Railroad Magazine* is to keep up with modern times and win new readers, according to Alan Oslick, 4041 S. Warner Rd., Lafayette Hill, Pa.

"I like to read about the trains of today and those being planned for the future," he writes. "Today, diesels rule the rails. Why play them down in favor of steam jobs? Oldtimers may enjoy rosters of engines long since scrapped, but I don't. Nor do I care much for tales of the 1890's. Our present world is far more exciting to me than the 'good old days.'

"I want to know how the carriers are meeting the demands of today and the challenge of the future. What problems do they face? What is new in push-button railroading, electronic yards, welded rail, CTC, lightweight streamliners, dome cars, and robot operation? When will we ride atom-powered trains?

"Your best department is *Information Booth* because it covers much of current interest. As for *Transit Topics,* I find the defunct trolley lines almost as boring as old bus routes, but I am more than a little curious about such items as air-conditioning tests on American subway trains, the rubber-tired subway cars in Paris, and the new monorail line for Brazil. Tell us more about foreign lands." ●



Two circus elephants rode the Baltimore & Ohio train *Shenandoah* to Washington, D. C., to take part in President Eisenhower's inauguration parade. The *Shenandoah's* hostess, Mildred Martin, whose duty is to see that her passengers are comfortable, served refreshments to the pachyderms, *Miss Burma* and *Little Miss Burma,* during layover in Pittsburgh. "Anything can happen on this job," she says.

Ed Romano, Pittsburgh Sun Telegraph

100 MILES PER HOUR is the speed promised for diesel-electric luxury trains on the British Railways next year! Plans call for operation out of London to Manchester, Birmingham, Wolverhampton, and Bristol at a gait matching that of the fabulous French *Mistral* (see page 39) and well above the best of America's currently scheduled rail speeds.

New locomotives for such service will be part of the British Railways' $3.36 *billion* modernization program. This program was one of the reasons for the Prime Minister's conference with President Eisenhower in Bermuda last March. In order to pay for internal projects, including railway improvements, Britain is cutting its quota of NATO armed forces on the European continent. Number 10 Downing Street would rather spend money for high-speed diesel locomotives and the conversion of 200,000 freight cars to continuous braking than for drafted soldiers standing idle on the far side of the Channel. ●

INFORMATION BOOTH interests railroaders as well as fans. Says P. C. Blakeslee, 89 Broadway, North Haven, Conn.:

"Although I spent five years as a fireman on the New Haven and 43 years as an engineer and thought I knew quite a bit about railroading, I have learned a lot more from reading the fine clear answers to the questions asked of Miss Barbara Kreimer. I also enjoy photos of steam engines. I hope you continue to keep alive the memory of steam railroading." ●

AUSTRALIA's various state railway systems are gradually introducing the diesel-electric locomotive, reports Kenneth T. Groves, an engineman on the New South Wales Government Railways, 26 Ramson Rd., Greenacre, Sydney, Australia. Mr. Groves wants readers to tell him what effect the diesels are having on the lives of engine and trainmen in the United States, including hours and working conditions, and what dieselization is doing to the railroad industry as a whole.

"Also," he writes, "I want to know approximately how many Americans

who used to service or repair steam locomotives were laid off as a result of dieselization? Have any once-flourishing steam-railroad towns become ghost towns?" •

SY REICH stated in our February issue, just before he joined our staff as *Hobby Club* editor, "Seeing a six-unit diesel haul a mile of freight cars thrills me."

Says Leo F. Broadstreet, 526 W. Missouri St., El Paso, Texas: "If Sy were to ride the caboose hung on behind a six-unit diesel and a mile or more of cars and get knocked around the way we trainmen do, he would lose that thrill mighty quick."

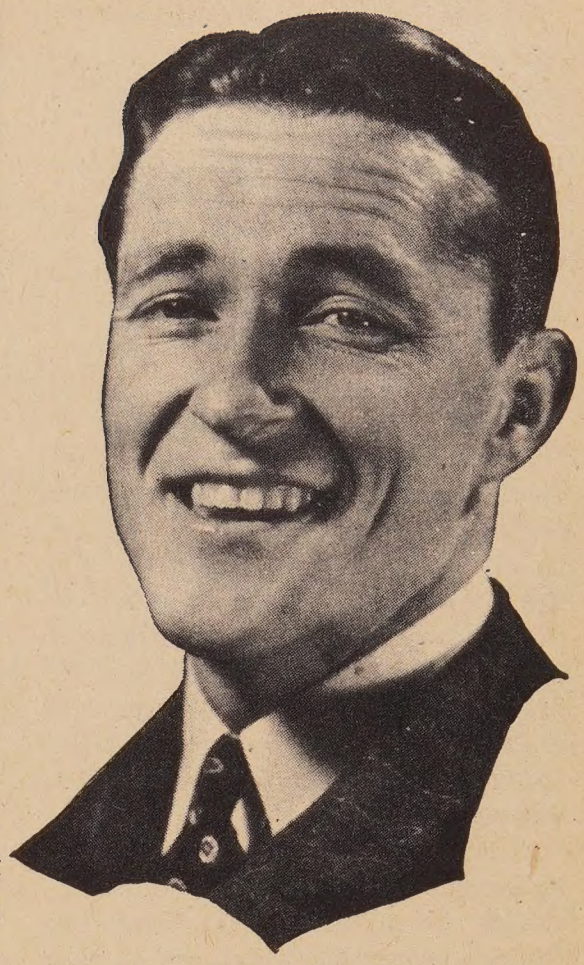
Mr. Broadstreet comments on another item in the same issue: "Harry Lyons was lucky in making it to the roundhouse after the injector on his locomotive had broken. I didn't. We had just pulled into the yard and stopped when the injector broke. On the way to the roundhouse the fireman dumped the fire and shut everything off except the air pump, but we didn't have quite enough steam in the boiler to get to the house. We had to stop at the water plug in the yard for water to fire up again. This plug was hardly 100 yards from the roundhouse. I have never heard of anyone before or since who had to stop for water in order to get the last hundred yards to the roundhouse."

Regarding Item 5 in the February *Information Booth*: "Down here in Texas we use the methods referred to for entering large passenger terminals. Some freight and passenger trains are lined into terminal yards by herders. A herder is a switchman stationed at points where trains enter and leave the yard. He handles the switches and he signals the engineer by hand, usually with a green flag or lantern. In many yards he also pilots road engines between the roundhouse and their trains. Every yard I've worked in has had herders."

LeRoy Palmer's story of "Night Jobs" (Dec. '56) struck a familiar note with Mr. Broadstreet. "I have often heard that incident about the operator at Pantano and the coal-scuttle trick he used to wake him up when a train passed. In fact, I know the Pantano station very well.

"It's a pretty little depot, especially after a rain. Located on the bank of a creek, its yellow frame nestles back

Do You Laugh Your Greatest Powers Away?



THOSE STRANGE INNER URGES

You have heard the phrase, "Laugh, clown, laugh." Well, that fits me perfectly. I'd fret, worry and try to reason my way out of difficulties—all to no avail; then I'd have a hunch, a something within that would tell me to do a certain thing. I'd laugh it off with a shrug. I knew too much, I thought, to heed these impressions. Well, it's different now—I've learned to use this inner power and I no longer make the mistakes I did, because I do the right thing at the right time.

This FREE BOOK will prove what your mind can do!

Here is how I got started right. I had heard about hypnosis revealing past lives. I began to think there must be some inner intelligence with which we were born. In fact, I often heard it said there was; but how could I use it, how could I make it work for me daily? That was my problem. I wanted to learn to direct this inner voice, master it if I could. Finally, I wrote to the Rosicrucians, a world-wide fraternity of progressive men and women, who offered to send me, without obligation, a free book entitled *The Mastery of Life*.

That book opened a new world to me. I advise *you* to write today and ask for your copy. *It will prove to you* what your mind can demonstrate. Don't go through life laughing your mental powers away. Use the coupon below or write: Scribe Y.Q.Z.

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against the hill and is surrounded by cottonwood trees, with the water tank and a bridge just to the east. In the spring when the trees turn a rich green, as contrasted with the gray hills, it would make a fine setting for a color slide.

"Years ago it was a busy place. All trains stopped there to take water and clean the fire, and many trains would meet there. The advent of oil-burners did away with the fire-cleaning, but the trains still made Pantano a water stop—until the invasion of those cold, heartless monstrosities known as diesels, in 1948.

"Mr. Palmer tells of putting a seal in the rail joint to determine which way a train passes. That must have been long ago. For about 30 years now the track through Pantano has been the eastbound main of the double track between Tucson and Mescal. Back in 1925-'26 the Southern Pacific took control of the El Paso & Southwestern between El Paso and Tucson.

"For 47 miles between Tucson and Mescal the two lines are closely parallel. Because the SP had the better ascending grade, eastbound trains run on this track, while westbound trains use the steeper descending grade of the old Southwestern. This move doomed Pantano and other stations on both lines as telegraph offices, since double-tracking had eliminated the necessity of 'intermediate' train orders and since automatic block signalling had ended the need for the spacing of trains by telegraph operators.

"There are no more meets nor water stops at Pantano now. No longer do the hills echo the throbbing exhaust of steam pistons; the pungent odor of coal-smoke has drifted away from the canyon. The order board, too, has vanished; the Morse wires no longer spell *Pantano.* The old depot is now used as a section house. Hardly a train ever stops there. Mail is exchanged once a day with No. 6, usually on the fly. Last time I passed Pantano the water tank was still there.

"Pantano is just a name on the time-card, but I remember it as a place that once flowed with activity. In my memory it is one of the prettiest spots on the Arizona desert." ●

MISS JUNE LOOBY'S interest in our feature article, "Green Mountain Carrier" (June issue) is ancestral. "My great-grandfather, William H. Looby," she writes, "came to America as an Irish immigrant in 1848 and promptly hired out to the Rutland Railroad as a track worker. Later he became a section boss. My grandfather, William H., Jr., was in Rutland train service 28 years, and now my father, Harold R., is a first-trick telegrapher for the same road at Rutland, Vt."

Thus June is descended from three generations of railroaders. Two of her brothers are brass pounders; a third is a student telegrapher. June herself is one of the head nurses at the Veterans Administration Hospital, Fort Hamilton, Brooklyn, N. Y. She's a 25-year-old brunette, stands 5 feet 3 inches in her nylons, and weighs a neat 114 pounds.

"Dad learned Morse in a country depot when he was 14," she says, "and Uncle Bernard when he was 16. Their main pastime in those days was hanging around the depot to watch the trains. My uncle went railroading in 1922, Dad in '24. When they were young they would bid in at the same station so that if either one wanted a day off, the other would substitute for him. Once at Knapp, N. Y., Dad covered my uncle's job by working three successive shifts without the company's knowing it. Today, with dispatchers using the telephone, that would be impossible." ●

Miss June Looby is directly descended from three generations of railroad men.

RAILFANETTE. The grand-daughter of another Rutland section boss is Miss Judith K. Ready, Shelburne, Vt., who also liked Charles Morrow Wilson's article on the Rutland Railway's history.

Judith Ready

"Last October," she writes, "I finished my day's work as secretary for an insurance agency in Burlington, Vt., and was looking over a news-stand for reading matter when *Railroad Magazine* caught my fancy. I have been buying and reading it ever since.

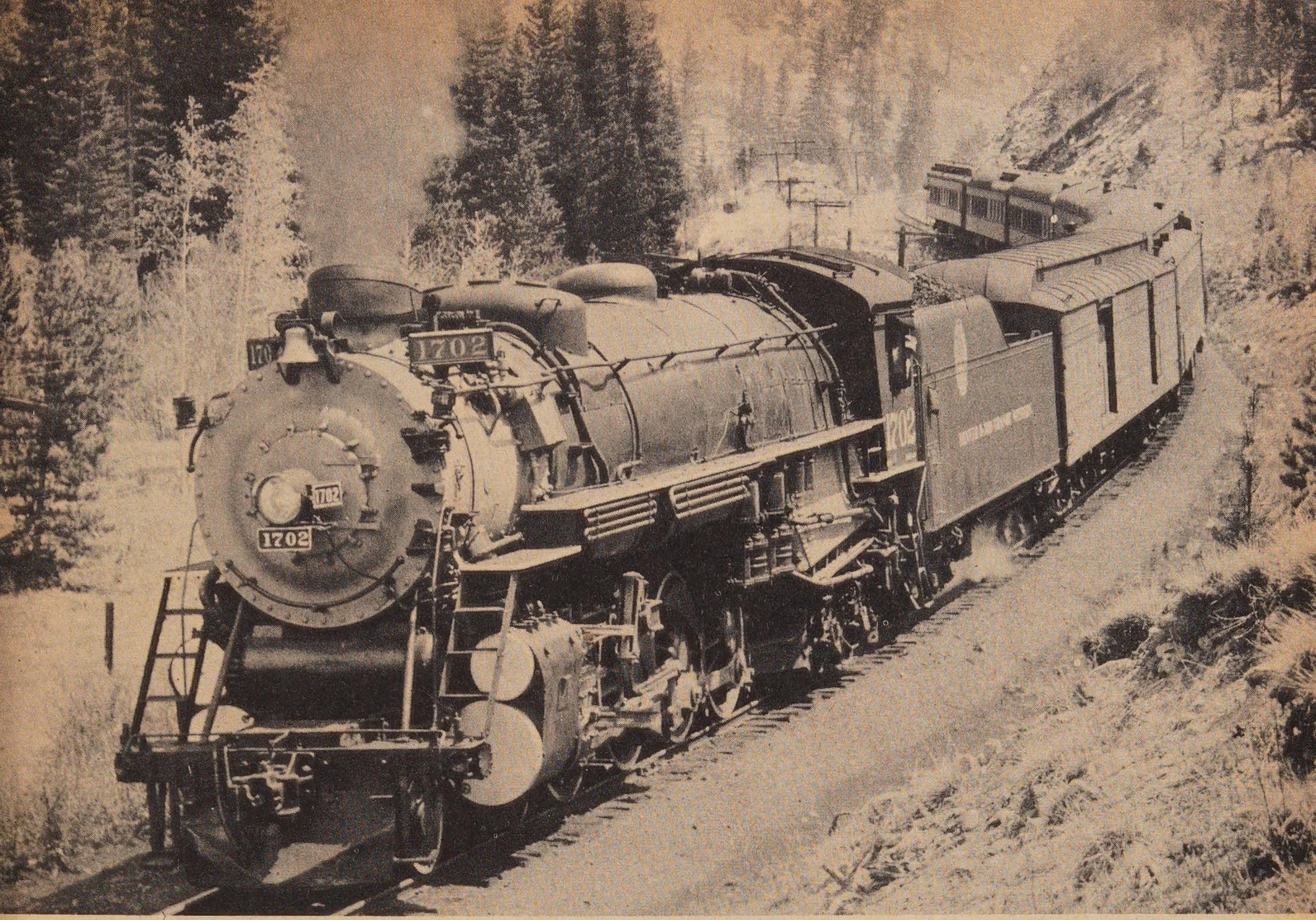
"I have always lived beside the Rutland's main line and the trains and their crews fascinate me. Some of the diesel locomotive men honk their air-horns to greet me as I go by. Ever since I was a tiny girl I have wanted to be a locomotive engineer.

"Besides Grandpa, my Uncle Wilson was a section foreman. That was back in the days when snowdrifts piled so high that trains would be stalled, and section men had to dig them out." ●

TEN-WHEELERS. "Regarding H. L. Kelso's article on 'Ten-wheelers' (June issue), which I liked very much," writes John D. Knowles, 194 Grenadier Rd., Toronto, Canada, "at least two narrow-gage 4-6-0's are still active in North America, both on the Grand Falls Central (gage, 3 feet, 6 inches) in Newfoundland. This line did not become a common carrier and assume its present name until July, 1956. Prior to that it was a private carrier known as the Botwood Railway, owned and operated by the Anglo-Newfoundland Development Co., a pulp and paper concern.

"The Ten-wheelers are Baldwin oil-burners. No. 6 works around the Grand Falls paper mill while No. 9 spots cars on the Botwood dock. Both are in daily service, along with two Mikados and two 2-6-2T's. The road, 22 miles long, connects Grand Falls with the port of Botwood. Besides paper-mill products and supplies, it hauls mine ore concentrates."

Mr. Kelso himself tells a story about Brooks-built Ten-wheelers on the Lackawanna. It seems that those hogs were notorious for their poor steaming and riding qualities and often took as long



Back in 1940, you could have heard the thunder of her exhaust as Denver & Rio Grande Western's 1702, a 4-8-4 type, wheeled the westbound *Exposition Flyer* near Rollinsville, Colo. (This train is now the diesel-powered *California Zephyr.*)
R. H. Kindig, 3831 Perry St., Denver, Colo.

as 30 hours to cover 100 miles. On one occasion a drag freight pulled by one of them moved so slowly that it reached Port Morris, N. J., simultaneously with a canal boat it had met 30 miles back.

The hogger greeted the canal pilot. "Made a pretty fast trip, didn't cha?"

"Wal," was the modest reply, "we'd have done better if we hadn't tied up at Hackettstown a coupla hours to get a new tow-mule. One of ours died." •

SHOO FLY. A big sign, "Shoo Fly One Mile," beside the Santa Fe tracks in San Diego, Calif., had pedestrian and motorist passers-by baffled. Guesses about the sign's meaning ran something like this:

"The sign is for fruit inspection. They have to stop the train and check the refrigerator cars for the Mexican fruit fly."

"The sign means the train has left the city area and can pour on the coal and shoo-fly out of here."

Every railroader knows that a *shoo fly* is a temporary track built around a point where track is being rebuilt or laid or where a wreck or something else is blocking the line. •

PERSONALITIES. Lincoln's funeral train, with seven coaches painted black, made many stops en route from Washington, D. C., to Springfield, Ill., and at each stop a multitude filed past the bier of the dead President. A Negro woman, just freed from slavery, boarded the train with her baby son at Albany, N. Y., and held him up to the coffin, saying: "Take a long look, honey! He died for you."

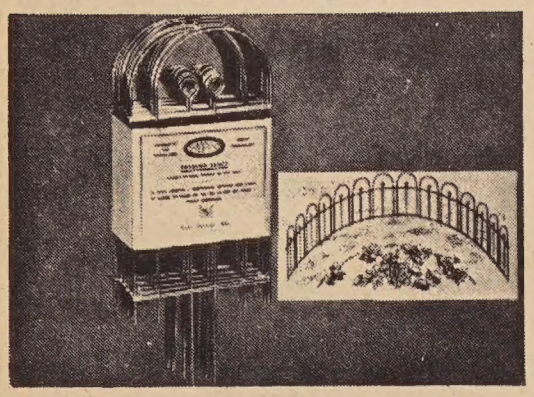
One of America's youngest conductors, "Whispering John" Tayloe of Paris, Tenn., was promoted to skipper at the early age of 18 and died twenty years later. His widow was no less remarkable. Left with six children to support, she became a successful florist and outlived her husband by nearly half a century, dying last December.

During his 47 years with the New York Central, George B. Phillips was responsible for the sale of several billion tickets to passengers. He retired the other day as ticket sales manager supervising 156 employes at Grand Central Terminal and five other ticket offices. "It's odd," he says, "not to hear any more the continual buzz of voices at the window asking for 'Two tickets to Chicago' or 'Round trip to Tarrytown, please.' After 47 years, those sounds stick in your memory."

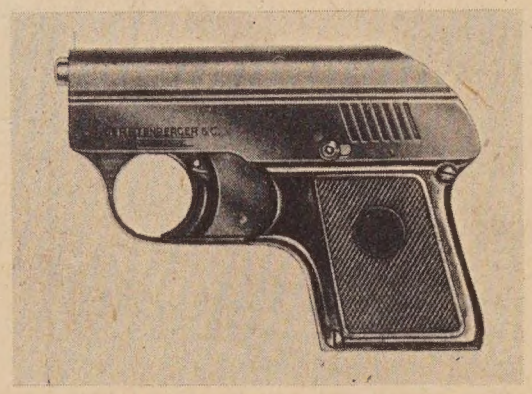
How is this for a railroad family? Pietro Gusti, a retired Southern Pacific machinist of Roseville, Calif., is happy that his five sons—Louis, Joseph, Emil, Mario, and John—are all journeyman machinists on the same road. Says Pietro: "I hope that some day *their* boys will be working for the Southern Pacific, too."

(Continued on page 70)

Men's Mart

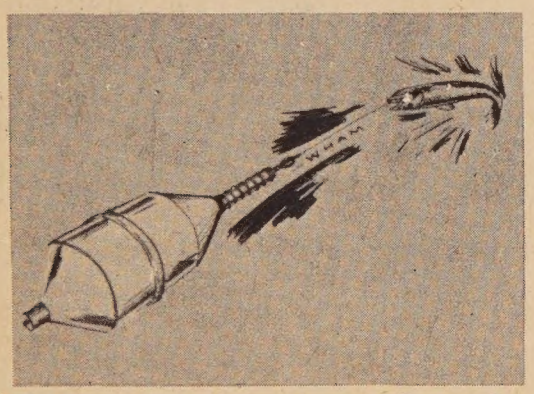


A quick way to protect, as well as beautify, your flower beds and lawn, is with this new folding 10-gauge zinc-plated (non-rusting) steel wire fence that opens to 10 feet, stands 18 inches. It conforms to any contour—round, oval, oblong, heart-shaped or square. Each section is detachable so that fence can be lengthened or shortened. $3.98 ppd. Order from Lord George, 1270 Broadway, N.Y.

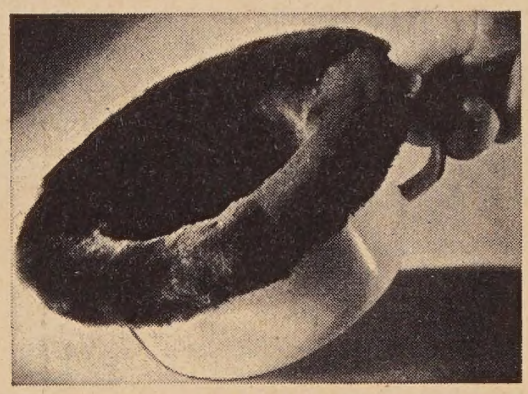


This new blue-steel German automatic fires blanks and doesn't require a permit to own. A 6-shot repeater, gun is fully automatic, has positive safety catch, self-ejecting clip. Machined with the care and precision of West German armament experts. Ideal for sporting events, it measures 4" long. It comes for $7.95 ppd. Order from Big Three Enterprises, 1109 6th Ave., New York, N.Y.

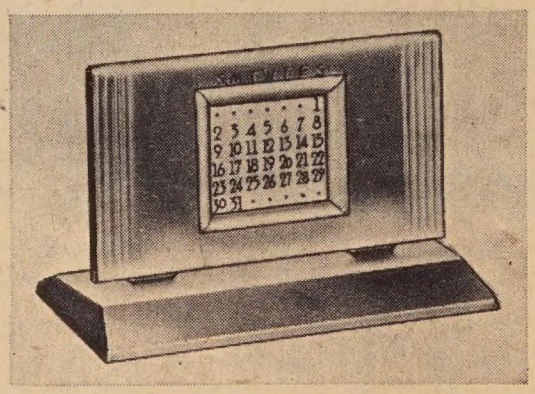
1898. That's when these helmets were made, and incredibly enough, this firm has found some that, though 58 years old, are *brand new* surplus. U. S. Army issue for Spanish-American War and Philippine Insurrection, all cork white linen helmets are duplicates of British African one. 2 sizes, small and large, both adjustable. $3.95 ppd. and a buy! Kline's, 329 East 65th St., New York.



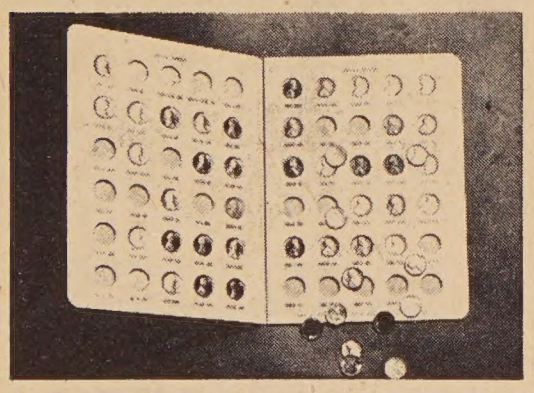
This new invention automatically catches fish because of an automatic trigger that sets the hook firmly in the mouth of the fish in just 1/50 of a second. It's called the "Bob-O-Matic" casting float. It takes just a second to reset trigger. Light and compact, it fits easily into any fishing kit. Might help increase your catch, boys. $1.98 ppd. Wegman Co., Lynbrook, N. Y.



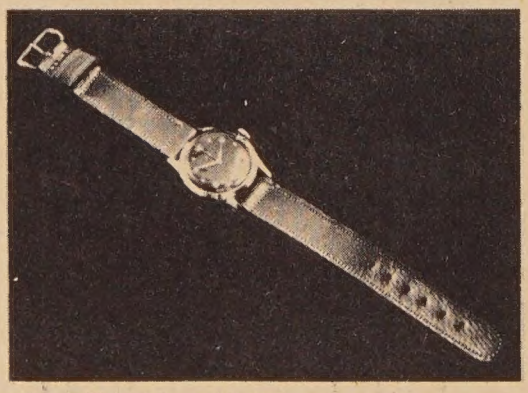
The good man that makes this little beauty says it's the ideal gift for a guy who has everything. We've heard that before, but this time the man may have something. Yep, it's the proverbial fur-lined potty (with real fur, no less) that ought to get a chuckle out of anybody. Could even be used as a TV seat. Dealer inquiries are invited. $3.95 ppd. Lincoln Products, 411 Lincoln Bldg., N.Y.17.



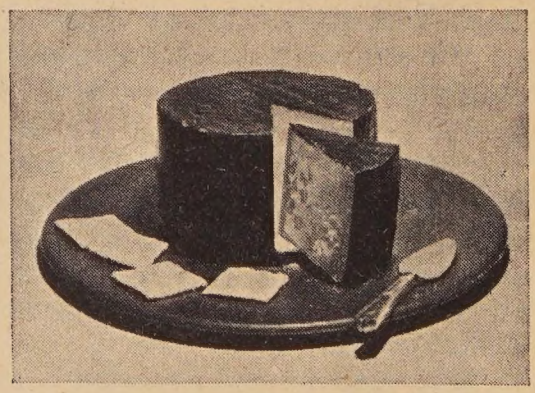
Keep this perpetual calendar handy and you'll always know the date. Just adjust the knob each month and the days fall in their correct sequence. All steel, it has a brass finish, sturdy stand. It measures about 4" long and 3" high. Useful for home or the office, calendar comes for $1 ppd. Order from Barclay Distributors, Dept. 664, 86-24 Parsons Boulevard, Jamaica, New York.



Object you're looking at is an unusual album for Lincoln head pennies—there's a place for 59 pennies, some easy to come by, others hard to find. Idea is to fill the album, naturally, but when full it'll be worth $16. Album's $1 ppd. from BYBY-MAIL, Box 67, Dept. E-2, Oakland Gardens Sta., Flushing, N. Y. If you fill album they give you $16 and $1 purchase refund.



This 17-jewel watch has a high grade Swiss movement, and is waterproof, shockproof and anti-magnetic. It has an unbreakable mainspring and crystal, and is easy to read. Ideal for outdoorsman, it has luminous dial and hands, sweep-second hand. Electronically timed and adjusted, it has a 2-year guarantee. $14.95 ppd. Karron Enterprises, Dept. E, 2 S. Main St., S. Norwalk, Conn.



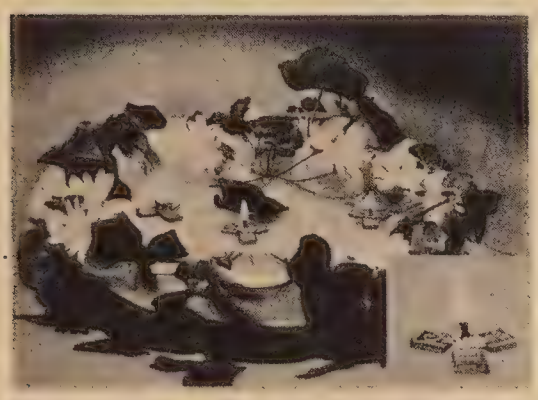
It's getting so that if you like cheese you either settle for the thin gummy concoctions stores stock, or send away for it. This Cheddar isn't processed, colored or pasteurized—just aged for two years. And until you try it you don't know what long aging can do to a rich whole-milk cheese. Sharp, crumbly 5½ lb. wheel, $6 ppd. Milder 3 lb. one is $4 ppd. Sugarbush Farm, Woodstock, Vt.

SHOP BY MAIL

All products shown here may be obtained directly from indicated sources. Send check or money order with your order. Manufacturer will refund full purchase price on prompt return of unused, non-personalized items. This department is not composed of paid advertising.

This is a new type of night-driving glasses that have amber-tinted lenses which let through infra-red light so that the wearer can see more clearly at night and in hazy, foggy weather. Glasses have 24K gold-plated aviation frame, adjustable nosepads. With case, $2.98 ppd. Clip-on type, $2.25 ppd. Specify for man or woman. Stuyvesant Trading, Dept. AD, 130 W 42nd, N. Y.

This is lovely jewelry—handcrafted from solid sterling silver in an original wheat design. Delicate work, and good examples of the skill of fine silversmiths, each piece is hand buffed and shines. Mighty nice for mother or favorite girl. Pin (2½" high), $5.50; earrings, $5.50; set, $10. All ppd., and worth it. Add 25c for air mail delivery. Alpine Imports, 505A Fifth Ave., New York.



Every hostess will want these tiny party candles. Imported from Europe, floating dinner lights are only ½" tall and will burn up to 10 hours. Float a few in a shallow bowl with flowers or leaves to form a centerpiece. Each package contains 50 candles and three floats. They come for $1 ppd. Order from Floating Lights, Dept. AMG, 37 South Park Ave., Rockville Center, N. Y.

This Western Chef barbecue set will come in handy next time you have a few folks over for a barbecue meal. Large fork, ladle and spoon, each almost 2 feet long, keep you safely away from the open fire when grilling hamburgers, franks, steaks, etc. Have hand-burnished bamboo handles, leather tongs for hanging. $4.98 ppd. Mrs. Lavelle, Dept. AM-141, 585 Water St., N. Y.

Just introduced is a free booklet on machines which enable the home owner, janitor or maintenance man to Rod-it-himself. The rod has 100% flexibility due to a new discovery in Swedish music wire. Sinks, bathtubs, toilets, floor drains and house-to-street sewers can be cleared of grease, rags and paper quickly and easily. Cutter blades can be added for removing roots. Another unit is the Miller Electric Rodder which will clean sewers and roots of heavy obstructions from 1" to 12", and up to 500 feet. Tools like these can save a great many costly plumbing bills, and will pay for themseves in little time. Write now for a free booklet listing hand and electric units. No agent will call. Miller Sewer Rod Co., Dept. PNS, 4642 North Central Avenue, Chicago 30, Illinois.

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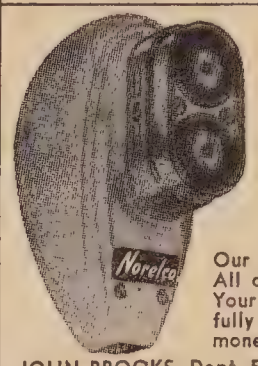

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Photos of the Month

In Marias Pass on the Continental Divide a huge snowslide blocked both tracks of the Great Northern's main line for 18 hours last February—but closed the paralleling highway for a week! The slide pictured here was only about 25 feet deep and 75 yards long, so the "Big G" licked it in five hours with a rotary plow, 3 diesel locomotive units, and 2 bulldozers.

A. E. Allen, 603 Connell Ave., Missoula, Mont.

"Farewell to Steam" excursion ends 72 years of steam power on 42-mile line of Simpson Logging Company in Mason County, Wash., now dieselized. Old Number 9 pulls three coaches rented from the Northern Pacific.
The Ferroequinologist, Los Gatos, Calif.

Tug enters Elliott Bay, Seattle, towing the first bargeload of freight cars filled with timber from central British Columbia, headed for the slip of the Milwaukee Road and a railroad trip eastward.

The Milwaukee Road

Safe way to sand diesel engine is demonstrated by Jesse Williams, Illinois Central hostler and crane operator, Hawthorne Yard.

Col. P. H. Fawcett

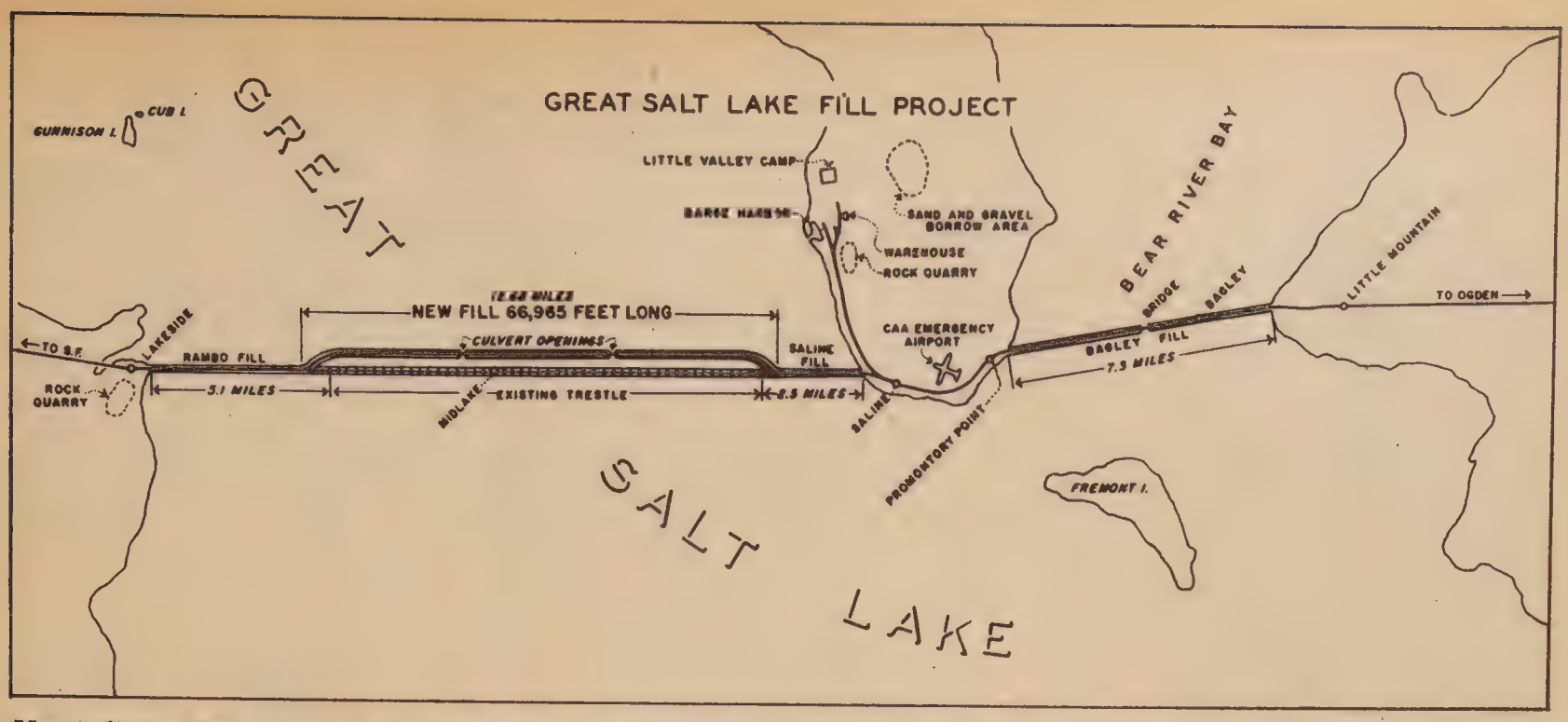
In South America, Central of Peru trains climb 15,806 vertical feet to highest point reached by any standard-gage road. Verrugas bridge (shown here) replaced a span washed away by cloudburst. A third bridge has since replaced this one.

Salt Lake Fill

Conveyor belt is kept busy in constructing Southern Pacific's 13-mile deepwater fill on Great Salt Lake, a four-year project.

Daybreak on the Lucin Cutoff, showing the first *City of San Francisco* speeding over a section that is now being filled in.

Southern Pacific Company photos



Map indicates the magnitude of the engineering operation that involves moving more than 47 million cubic yards of material.

OF ALL the obstacles met in constructing the Central Pacific (now Southern Pacific) only the Great Salt Lake successfully defied the pioneer builders. They detoured north of the lake, twisting and turning their track over a grade of 1,500 feet to join with Union Pacific rails from the east at Promontory, Utah, on May 10, 1859.

A granite monument marks this spot, but the railroad itself has long since bypassed it.

The present crossing, Lucin Cutoff, completed 53 years ago, shortened the rail route between San Francisco and Ogden by 43 tortuous miles. More than 32,000 trees went into building the deep-water trestle to provide 130-foot-long pilings.

Now the SP is engaged in the four-year task of filling in the trestle part of the cutoff, so that all trains crossing the lake will roll on firm ground. An engineering journal calls this project "one of the most ambitious earth-moving operations in the history of Western civilization."

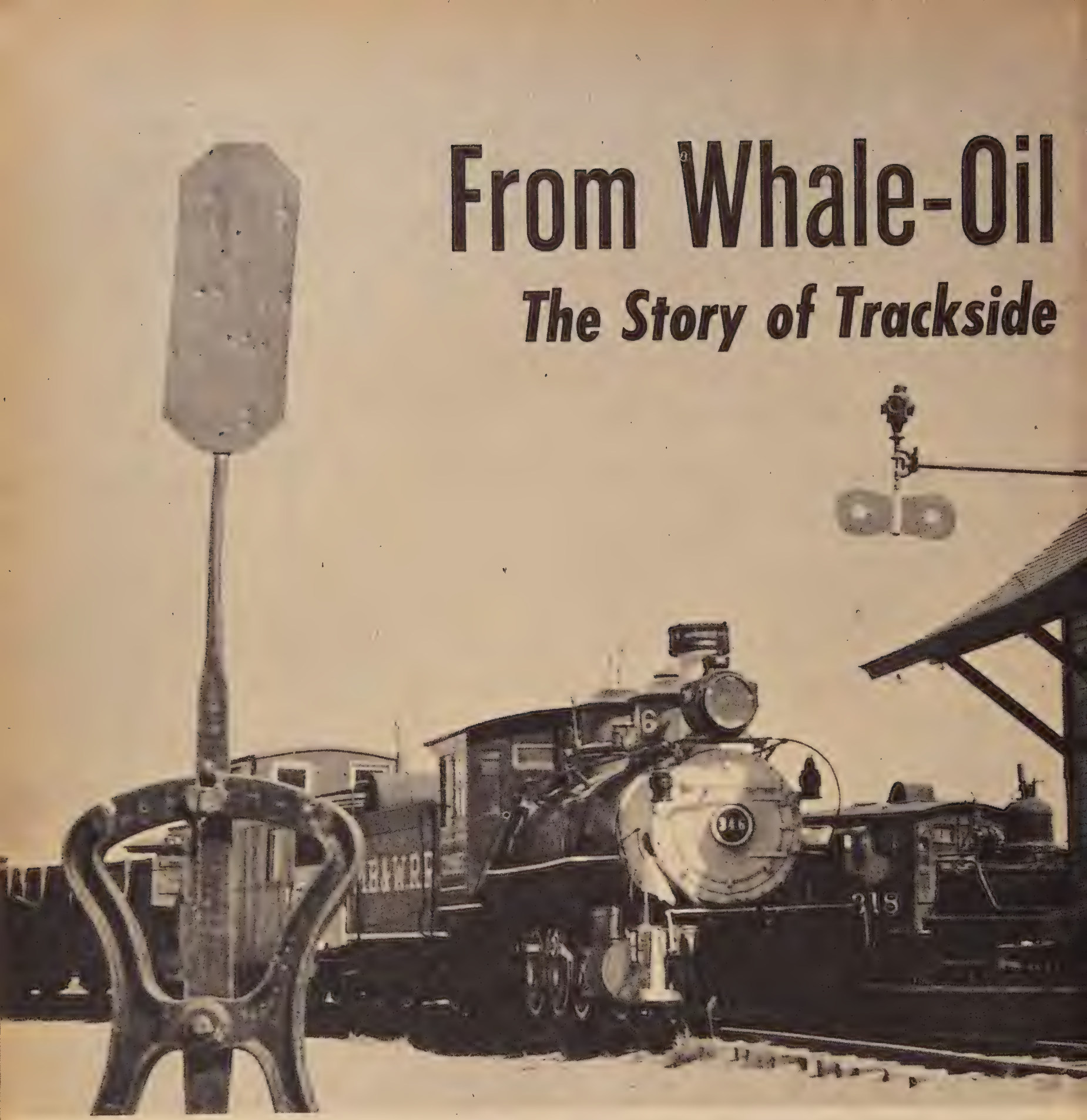
First steps in this lake-splitting job were taken in June, 1955. The conveyor belt pictured on page 18 is nearly two miles long. It is moving sand and gravel at the rate of 75,000 tons a day. Total cost of the project is estimated at $49 million. Some 600 workers are employed on it. Many of these men, with their families, are living in a temporary city of 2,000 inhabitants. Their payroll will amount to almost half the total cost of the project.

The master plan calls for dredging some 16 million yards of lake bottom to create a trench 175 to 480 feet wide and 20 to 35 feet deep, reaching down the soft layer to hard clay or rock salt. The dumping of rock and gravel follows this dredging. The fleet of 33 barges and power-boats assisting on the job constitute the Southern Pacific's Navy. ●

Cutoff was begun in 1902, completed in 1904. It looked like this shortly before tracks from east and west met in mid-lake.

From Whale-Oil

The Story of Trackside



"Swift" type order-board and ancient switch displayed at Virginia Tech station, Blacksburg, Va. (Photo by Mal Ferrell)

by HARRY RIDGWAY

A PANCAKE of wet snow plastered against a red signal light. An engineer in his cab at night misinterpreting a white lantern hung on a crossing gate. A glass lens in a semaphore arm becoming loose and falling out of its socket. Little incidents like these led to disastrous train wrecks and eventually shifted the colors in the standard signal code.

You don't have to be sixty to recall the days when white meant "go ahead." If you were a hogger in those days and saw white, your block was supposed to be clear. You jerked the throttle open another notch or two or left it wide open. Cy Warman, a runner on the old Denver & Rio Grande narrow-gage, wrote a great poem ending with this line, "I hope the lamps are white."

But precious human lives were lost and much railroad property was destroyed before signal colors were

to CTC

Signals

Years ago, modern color-light and color-position-light signals replaced old-style semaphores in the automatic block system.

changed and, later, centralized traffic control was adopted.

Without CTC, today's high-speed railroading would be difficult. In CTC territory, train orders and towermen are obsolete and train superiority is eliminated. Traffic runs by trackside signals and an engineer's sacred duty is to obey them.

The change didn't come suddenly. No significant change ever does. In the 1900's each railroad had an individual way of doing things. Each road, for example, had its own combination of colors and shades for trackside signals. There were reds varying from orange to deep crimson, "greens" of chrome yellow or blue, and a whole palette of nondescript yellows, blues, and purples.

Not until about sixty years ago were serious efforts made to standardize this palette. That was the aim of the Railway Signaling Club, organized in March, 1895, and destined to become the Signal Section of the Association of American Rail-

C. L. Terroux, St. Lambert, Que., Canada

Early type semaphore in danger position, with top cap off. Pulley-wheel atop iron frame was used in hauling hand lantern up from trapdoor below.

roads, which is still making history.

Go back to a winter evening in 1890. A coal drag, with William Nixon at the throttle, was slogging over the snowy rails of the New York, Susquehanna & Western. It reached Little Ferry, N. J., where the main line crossed the broad ice-crusted Overpeck Creek on a drawbridge. The span had just been raised to let a sloop through, which automatically set the track signal at stop.

But the train did not stop. Soft snow had whitened the red roundel, giving the illusion of *clear,* and when the open bridge yawned suddenly in front of his oil-burning headlight it was too late. Frantically trying to reverse, Nixon died in his cab. The engine plunged into the dark water, hissing and splashing, and the coal cars piled on top of her, as the fireman jumped to safety.

Turn now to the mild starry night of September 6, 1896. A new Haven engineer, breezing his train along near Whittenton Junction, Mass., spied a white light on the right-of-way pinpointing the darkness. Like

Target signals at Fostoria, Ohio, railroad crossing. (Left) B&O-C&O: Diagonal position plus green ball (lantern at night) lets train move over transfer track. When target is horizontal or vertical, bell and lantern vanish into barrel. (Right) NKP-C&O-NYC: When target is horizontal, either C&O or NYC train moves, depending upon whether or not red disc is lowered. The showing of a green disc permits the movement of Chesapeake & Ohio trains at this rather complicated crossover.

Photos by Richard J. Cook

Bill Nixon, he thought he was seeing a *clear* indication and he naturally kept on going—and plowed into the rear of another train!

Investigation revealed that the light in the red home signal had burned out, while the "clear" was a switchman's white lantern hung on a crossing gate. The Signaling Club acted quickly. At their next meeting the members adopted a code changing the clear to green and making yellow a caution signal, and they launched a campaign to persuade all the railroads in North America to accept this change. That was October, 1906, the month of *Railroad Magazine's* birth, an important month in railroad history.

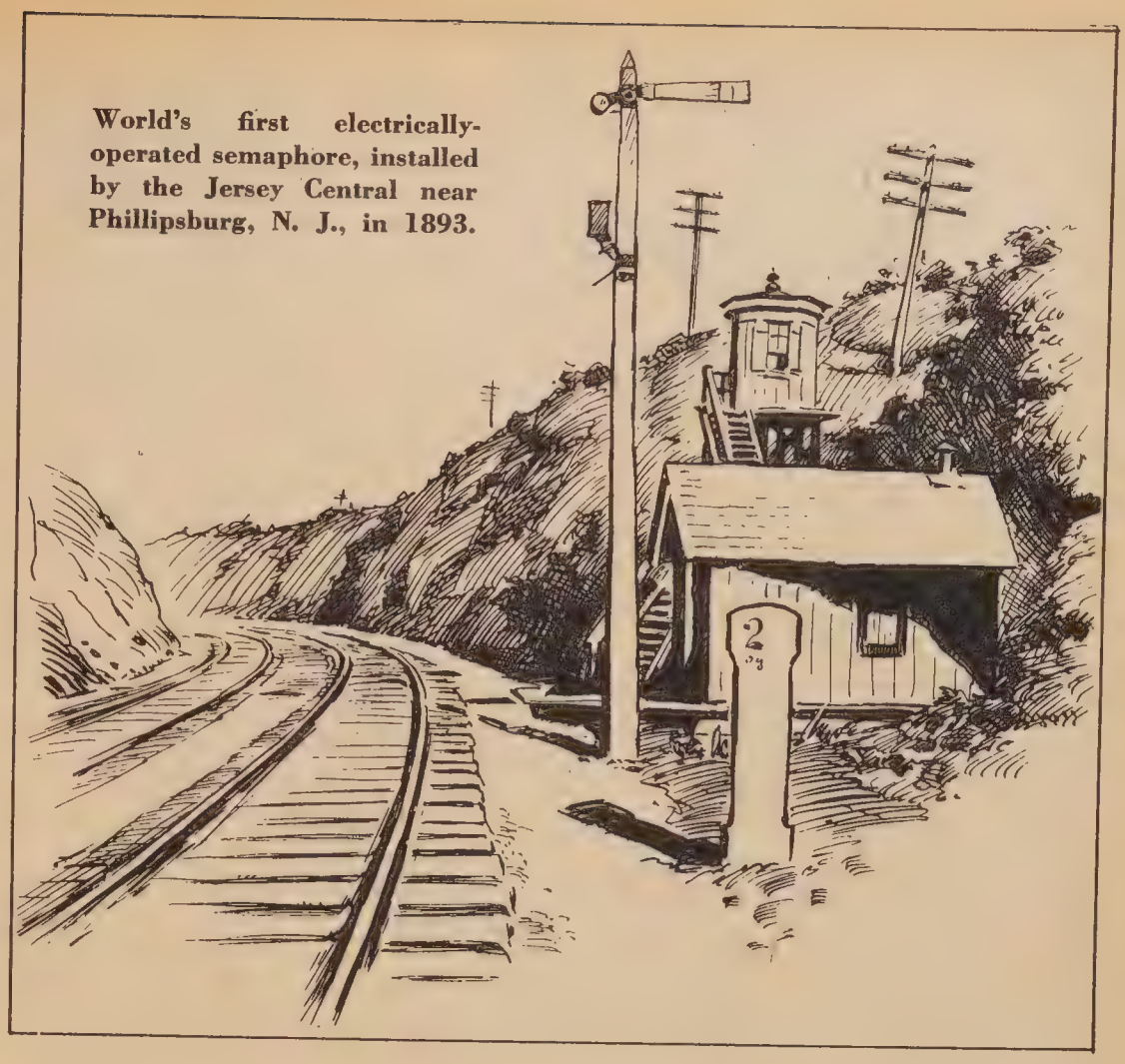
Next spring the New Haven, remembering its wreck of September 6th, became the first road to use the code that is now universal. One by one, the other companies fell into line, prodded by reports of collisions due to the old color system.

By 1910 white had been rather generally discarded. But not until several years later did the conservative Pennsylvania bow to the inevitable and put an army of signalmen to work changing the lenses on its entire system—a job they did on a midsummer's day between dawn and dark.

One of the wrecks that influenced the Pennsy's decision occurred on a curve near Leetonia, Ohio. Harry K. McClintock, now living at San Francisco, recalls the event in which he, as a head brakeman, was slightly injured.

The Pennsy had no electric block signals west of Beaver Falls, Pa., but a manually-controlled system was intended to keep trains apart. Each telegraph office had a three-position semaphore. Not until a block was reported clear were operators allowed to let a passenger train into it or let any train follow a passenger.

Freights could trail one another on a caution signal—*i.e.*, the semaphore arm set at a 45-degree angle and the light showing Irish. If the arm dropped all the way down, the light blazed white, indicating unobstructed rails as far as the next telegraph office. The arm at hori-

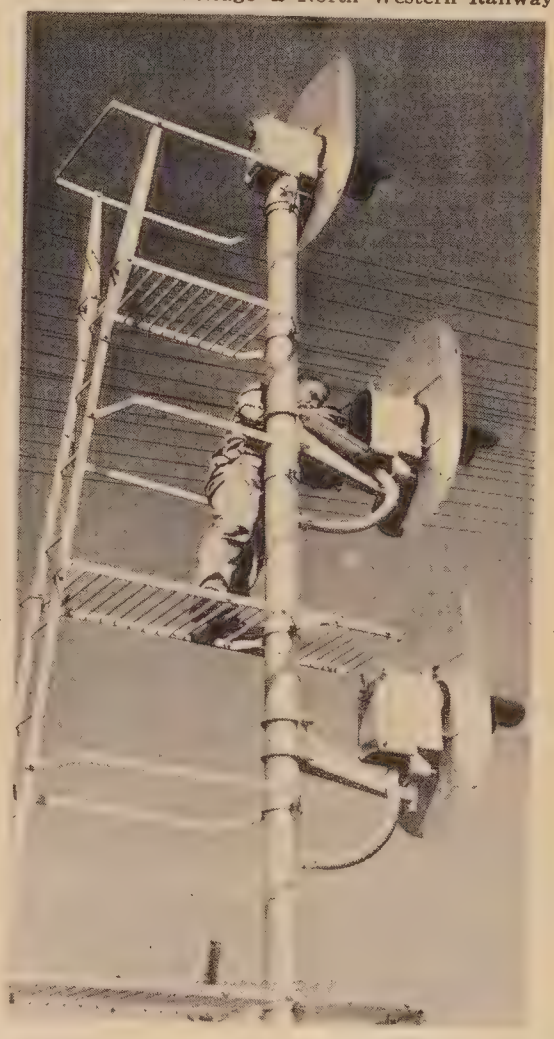


World's first electrically-operated semaphore, installed by the Jersey Central near Phillipsburg, N. J., in 1893.

Southern Pacific Lines

For many years this landmark guided SP trains on Lucin Cutoff across the Great Salt Lake. **(See page 18.)**

Chicago & North Western Railway



C&NW maintainer on signal bridge at interlocking plant that governs approach to Chicago passenger terminal.

Chesapeake & Ohio Railway

As dusk falls, a hogger watches pinpoints of light wink in the distance. This steam engine *was* Chesapeake & Ohio No. 1450. The scene is Russell, Kentucky.

zontal, exposing red, meant stop, just as it does today.

"That night, our freight pulled out of Crestline, Ohio, and followed a flour train," says Mr. McClintock. "Midway down Grafton Hill we passed a tower whose signal could be seen plainly from the fireman's side. I was planked on the fireman's seatbox and we both saw it.

" 'White eye!' bawled the fireman."

"But when we rounded a curve on the supposedly clear track we were startled to see the flour train standing still and taking water not much more than 1000 feet ahead of us! Of course, the hogger slammed on emergency brakes and yanked his whistle cord, but it was too late. We didn't even have time to jump. We ducked low behind the boilerhead as the engine hit the caboose like a battering ram.

"Splintering boxcars cushioned the impact. We were badly shaken up but had no serious casualties. The green lens had fallen out of the semaphore arm and lay at the foot of the mast. Shortly afterward, a general order directed engine and train crews to check the position of a semaphore's arm without relying too much on the color of the light, and still later the Pennsy adopted the new code."

How did white come to be used in the first place? Well, it began on some obscure date when a railroad "policeman" was posted on a hillside at a curve to wave a flag that would tell approaching trains of conditions ahead on the single-track line—white if clear, red if blocked. These men prevented many wrecks.

The earliest trains ran only in daytime. But with the advent of night service, lantern signals appeared, and at first they burned whale-oil. Two decades of railroaders put up with the foul-smelling stuff. Then in 1859 Ed Drake, a former New Haven conductor, went to Titusville, Pa., and struck oil. It is doubtful if he ever realized the extent of his contribution to signaling when kerosene replaced whale-oil.

Away back in the 1790's, semaphore signals were common in

France as a means of communication. Applied to English railways in 1841, they spread to North America in the early 1850's. Power operation was not developed until forty years later, when the Central of New Jersey came out with the world's first electrically-operated semaphore signal.

This led to the adoption of electric signaling on other roads. The Norfolk & Western installed its first three automatic signals near Kenova, W. Va., in 1904. They were simple, one-arm, two-position types run by batteries. But many years passed before there was a general trend in North America to replace semaphores with the modern color-position lights.

Go back for a moment to a dark night in 1863. The Civil War was raging. A troop train on the United New Jersey Canal & Railroad Company (now part of the Pennsy), en route to New York from a battlefield, was involved in a ghastly rear-end collision. An investigation followed.

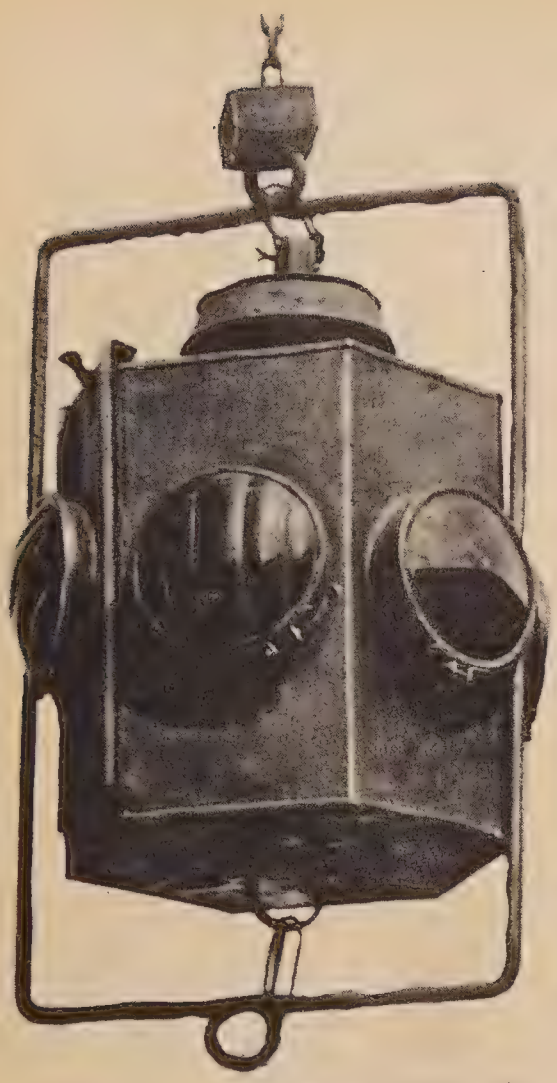
"Our trains have been running too close together," decided Ashbel Welch, the road's president and chief engineer. "We'll try spacing them out."

So he set up an office and a signal at every five miles along the line, with a man on duty. Telegraph, in use on railroads since 1851, was the means of communication. Each signal, the "banner-box" type, consisted of a wooden box enclosing a red cloth disc, or banner, and a lamp. Ordinarily the lamplight shone through the red to produce a *stop* signal. To display a white light, authorizing *proceed,* the operator pulled a rod, raising the banner to the upper section. This system took the policemen out of the weather and put him into what were called "police towers."

Under the new system, towermen were on the alert for danger signs. In those days of easy-breaking couplers and hand brakes, trains would occasionally drop cars from the rear end. This brought about a rule requiring the last car to display flags the same color as the classification signals up front. Later

Illinois Central Railroad

Automatic color-light signals, like unsleeping sentinels, stand watch by day and by night over more than 22,000 miles of centralized-traffic-control territory.



Gerald Boothby, Portland, Me.

Lantern-type "ball" used in the kind of signal that gave us the word *high-ball.* (Below) Combination ball and order board, Cumberland mills, Maine.

called *markers,* they denoted a train that had all its cars.

In 1872, Dr. William Robinson devised an automatic track-circuit plan for the purpose of preventing train wrecks. Tried out on the Pennsylvania & Erie (now part of the Pennsy), it worked successfully and thus he became the father of the closed-rail track circuit for the control of automatic signals.

It was regarded as the only safe means by which a train could utilize *continuous* control of signal by occupying a portion of the track guarded by that signal.

Dr. Robinson's invention marked the beginning of the automatic block signaling that is now in general use on the leading railroads of the world. The first to be used was the disc type. Its effectiveness was demonstrated on the Louisville & Nashville a few years ago. A venturesome red ant crawled into a relay case, getting stuck between two contact points. This de-energized the relay, resulting in a nearby signal changing from clear to stop, and stopped the road's fastest train, *The Flamingo.*

There were home signals, and distant signals, the latter being those located away from the tower and governing the approaches to it. As a rule, the distant signals were installed at offices on sharp curves. Operators had to go out in all kinds of weather to handle them.

Eventually—whether from pure laziness or ingenuity is debatable—one operator, using a leather rope with a few bricks for a counterbalance, was able to manipulate the distant signal from his tower. This labor-saving device succeeded so well that various railroads adopted it. In time, strong steel wires replaced the weather-stretched rope, and later on, electricity took over.

Then Thomas S. Hall perfected a new type of automatic signal, controlled by track instruments instead of track circuits. When the instrument was depressed, it operated a *banjo* type signal, which resembled a huge banjo standing on its small end.

The "smashboard" signal made its debut on the New Haven in 1868 as a drawbridge indication. It was rigged so that when the drawspan lifted, the red smashboard lowered itself over the track. Should an engineer fail to heed it, either the board or the locomotive cab would be smashed. Even today, some roads use an electrically-controlled type of smashboard. The term "getting a board," denoting *stop,* originated from this kind of signal.

In the early electrification of the New Haven in 1917, the semaphore blade on signals then in service proved to be too long and would not provide sufficient clearance with the overhead catenary. The result was a development of a short-armed semaphore with a better light indication. This signal was first installed on the New Haven between New Haven and New York. Because of its improved light indication, it is regarded as a forerunner of the color-light signal.

But the New Haven was still being plagued with train collisions. In 1918, the company offered a $10,000 prize to anyone coming up with a train-control system that would prevent such accidents. Nobody ever collected it.

The world's first electrically-operated semaphore was installed by the Jersey Central in 1893 near Phillipsburg, N. J., on a curve at a desolate spot known as Black Dan's Cut. It was an all-wood setup of the lower quadrant, two-position stype. Today, this method automatically controls nearly 100,000 miles of track in the United States.

That first one was unique. By means of a stout phosphor bronze wire operating over a drum and forming a part of the motor assembly, a motor pulled the spectacle casting by a balance lever to the proceed position, or downward. When there was no current on the motor, the arm returned to stop by gravity and counterbalance. The motor was a direct current, low-voltage type. Current came from twelve batteries.

At almost exactly the spot where the original signal stood, you can

Behind the scenes in modern CTC operation. (Above) Chesapeake & Ohio board and signal controls at Cincinnati. (Below) N&W's Shenandoah Division: one man is handling the Roanoke-Shenandoah line; the other, Shenandoah-Hagerstown.

now see a modern electric motor semaphore, incorporating the latest developments.

Position-light signals were introduced by the Union Switch & Signal Company of Swissvale, Pa. They consisted of rows of amber lights corresponding to the three positions of the upper-quadrant semaphore signal and were first tried out on the PRR main line near Paoli, Pa.

This type was developed by Holly Rudd of the Pennsy. Its advantage over the color light was that the engineman did not have to distinguish colors, since the aspects were displayed by position.

Railroad signaling may be divided into two eras—before and after 1920. Early in the '20's the Milwaukee Road was having success with 450 miles of long-range daylight-type color lights. Then the Baltimore & Ohio pioneered in installing color-position, long-range lights, thus combining aspects of color and position. Electric lights began to replace the kerosene and lard-oil lamps.

The story goes that Frank Patenall, the B&O signal engineer, was favorably impressed by Rudd signals but because of the great rivalry between himself and Mr. Rudd he did not accept the same type the Pennsy was using. Instead, he promoted the color-position light signal which is in general use on the B&O today.

In 1925 the Santa Fe came out with a cab signal and the Illinois Central with an automatic train stop. Two years later the Pennsylvania introduced a four-indication, coded, continuous-cab signal with automatic stop and forestaller. (A *forestaller* is a lever in the engine cab, which, when thrown, cuts out the automatic device and allows a train to enter caution block territory without stopping.)

The year 1927 saw a sensational change in signaling when the General Railway Signal Company installed 40 miles of CTC on the New York Central between Stanley and Berwick, Ohio. This new system made a big hit. It was followed the next year by a six-mile installation on the Norfolk & Western between North Roanoke and Cloverdale, Va. Today, more than 22,000 miles of CTC guard American railroads, including 868.5 on the N&W. The latter is an unusually high figure, considering that the entire N&W main line from Norfolk to Columbus, 663 miles, is double-tracked.

Briefly, CTC is a system whereby you sit at a desk and operate a switchboard panel. By means of color lights, buttons, and small levers you can make one track do almost the work of two. From as far as 100 miles away, you operate signals and switches. You put trains in on sidings and let them out. On a wallboard before your eyes is a miniature diagram of your territory. Lights, winking on and off, indicate the position of each train.

During the early stages of CTC, the Santa Fe made an installation with Mountain Air, N. M., as the control point. While this town was practical from the operational viewpoint, it had undesirable living conditions for the dispatchers and their families. The dispatchers wanted to live at Clovis, about 200 miles away, but at that time no tools were available for moving the control point. After a few years, however, developments in coded carrier control had progressed to the stage where such a move could be made, and the dispatchers' wishes was a big factor in this move.

The first CTC installation to include an entire engine division occurred on the Burlington Route between Akron and Derby. When a portion of this line was placed in service two trains—a freight and the *Zephyr* — approached the control point at Brush, Colo. Many people, including company officials, gathered in the dispatcher's office to watch the goings-on.

The dispatcher had to make a hard decision. Should he permit the freight to continue eastward to the next station, which was Story, even though the *Zephyr*, pride of the CB&O, was burnishing the rails only a few miles behind it? The decision was *yes*.

Tension mounted as the streamliner continued to gain on the freight, and some relief came when the model board indicated that the freight was heading into the siding at Story. But the freight took longer than had been expected for pulling into the siding. This was bound to delay the *Zephyr*, which would encounter a signal in the opposite direction—but the last thing that anyone wanted to do was stab the Burlington's best passenger train.

According to the lights on the model board, the freight entered the siding but the home signal failed to clear in time to avoid stopping the *Zephyr*. The period that elapsed caused the men in the office to assume that a failure occurred in the new CTC system. There had been enough time for the home signal to have cleared. However, it was learned that the Burlington's general manager had ordered that this test be made to illustrate the point that although the *Zephyr* was a very important train, it still had to operate in accordance with signal indications.

Prior to CTC installation, one mountainous location on the Union Pacific had to send its pusher-locomotive crews back to their headquarters in taxicabs, because otherwise the men could not get in within the sixteen hours set for them by law. But CTC improved the service so much that the crews have since been able to get back without the use of taxis.

When the Pennsy converted a piece of track to CTC in Indiana in 1930, the installation was ready for service and a veteran engineman was given the honor of making the first run. The CTC signal flashed, permitting the freight train to move out from double to single track.

But the old hogger refused to budge. He had been brought up in the conventional school of train orders and timetables. In vain had the new system been explained beforehand. The runner mopped his forehead with a blue bandanna. He looked out the cab window toward the rear, hoping to see his conductor walking down the track with that sacred train order, a last-minute reprieve. At last, with an air of resigna-

tion he jerked the throttle open a few notches. His train entered CTC territory and soon picked up speed. He heaved a sigh of relief.

It was ironic that the New York Central, the father of CTC, should have a costly wreck on its main CTC line near Erie, Pa., last February. And it occurred less than two weeks after officials had proclaimed it "the safest piece of railroad in the world." Even so, the pile-up was caused by a failure entirely outside of the CTC system. Basically, CTC is foolproof.

Some years ago the Milwaukee Road attempted to lengthen its alternating track circuits to three miles with two-element galvanometer-type relays. The circuits worked fine in summer but failed during the cold days of winter. Union Switch & Signal engineers spent several months on the Milwaukee making tests and adjustments to the three-mile track circuits, and eventually had to cut their length in half. It is interesting to note that while the men were put on the railroad testing, they could not perform any tests unless the weather was at least 10 degrees below zero.

Eclipsed by modern developments, the historic *center-post* has become almost a forgotten legend. In the early days of steam cars, when all railways were single-tracked, a wooden stake was driven into the ground beside the track halfway between sidings. Opposing trains, each pulled by Eight-wheelers, with brass shining and disgorging plumes of blue-gray smoke, would race to these posts. Often they arrived in a dead heat and the crews would argue hotly over which train would back up to a siding.

Yeah, times have changed. Today's youthful signalman probably doesn't know that the stationmaster of over a century ago had to climb, like a monkey, up a thirty-foot pole and peer around the countryside through a telescope for signs of approaching trains. But he is probably aware that the word *highball* originated from a ball raised and lowered with a rope on a primitive type of signal.

Trackside signaling is a story of trial and error, a long series of inventions and improvements, a constant search for something better. The stakes are human lives, time, and railroad property. Signals of a few decades ago are obsolete. Color-lighting, the big discovery of the early 1900's, has just about taken its pension.

Today, we hail CTC as the "last word" in train operation. But don't be too sure. Fate is shuffling her deck of cards. Atom-powered locomotives loom for the future. Already we have atom-powered signal lamps known as *Isolamps*. These modern miracles, made by the U. S. Radium Corporation at Morristown, N. J., are activated by long-lived radio-active gas and they glow with high intensity.

The Isolamp needs no external power supply. Once installed, it is expected to require no further care for at least ten years. Imagine being a switch-signal maintainer in Isolamp territory!

Right now, facilities for producing these glorified gadgets are limited, but just wait. The cycle from whale-oil to CTC is complete. What next? New ideas are inevitable. "Nothing," said Victor Hugo, "can stop the birth of an idea whose time has come." Successful tests in France and in America, the latter conducted by Union Switch & Signal on the New Haven, conjure up the exciting vision of trains running without crews. Should these robots ever become standard operation, what would happen to trackside signaling?

Meanwhile, our silent, twinkling, CTC sentinels continue to guard the safety of the rails. ●

New atomic-powered switch lamp uses isotope radiations to light up a phosphor screen that is clearly visible for 500 yards. It requires no external power supply. Once installed, an Isolamp should glow for ten years without further attention.

U. S. Radium Corp., Morristown, N.

The World's Fastest Steam Locomotive

Like a Runaway Comet, No. 7002 Wheeled the Pennsylvania Special *for three Exciting Miles at 127.1 Miles an Hour, Away back in June, 1905, and No Regularly Scheduled Train Has Ever Equaled That Record!*

by FREEMAN HUBBARD

Pennsylvania Railroad

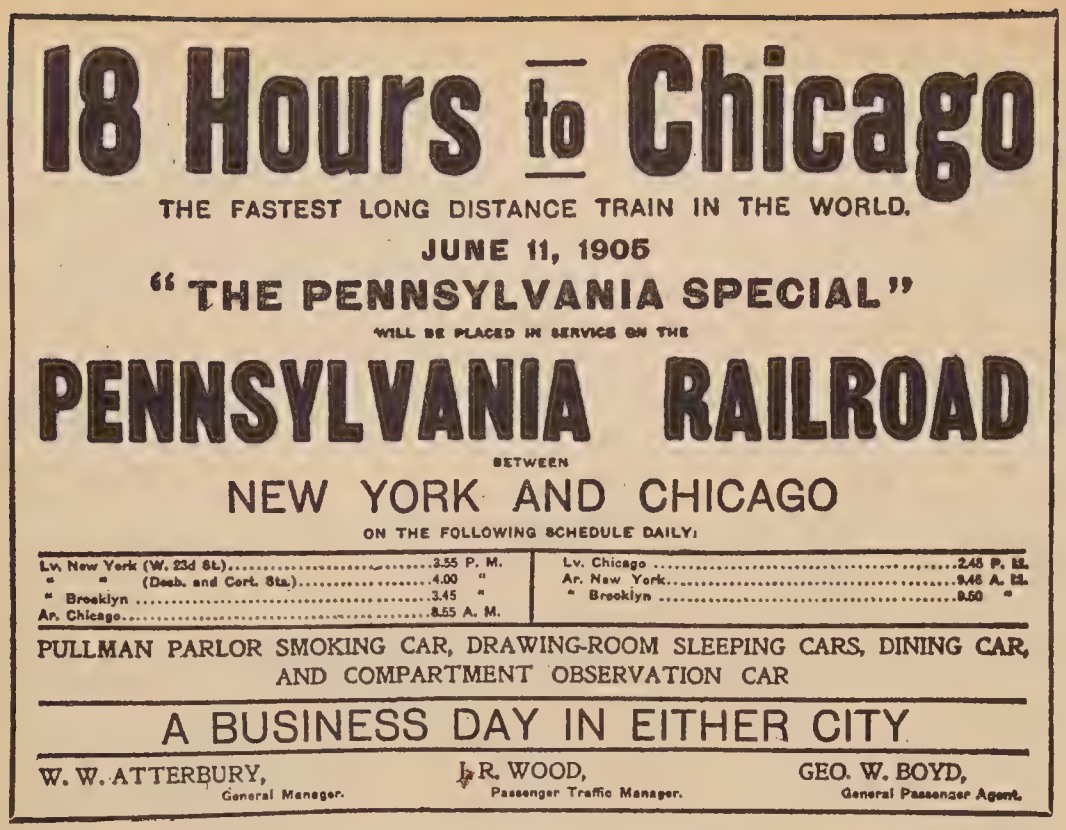
IT HAPPENED because of a hot-box. That record of 127.1 miles an hour over three miles of straight track was no mere publicity stunt. The Pennsylvania Railroad did nothing unusual to prepare for a burst of speed near Ada, Ohio, that memorable June night in 1905. They did not spike switches nor post extra guards at crossings. They did not tip off Ohio reporters to wait beside the track for the *Pennsylvania Special* to flash by to a new world's record.

The inside story is that of a throttle artist with an extra-good steam locomotive making up time lost by an overheated journal. Just a routine job well done!

But the train that is now called the *Broadway Limited* was no ordinary streak of varnish. She was a new train, an elegant, extra-fare train. Newspaper ads published June 8, 1905, promised that she could cut the running time between the Atlantic seaboard and Chicago to 18 hours, beginning with her maiden run, June eleventh.

Prior to that date the swiftest service between those two points took the Pennsylvania and the New York Central alike 23 hours. This, despite the fabulous speed of 112.5 miles an hour that the Central had scored with engine 999 and the *Empire State Express* for one exciting mile in upstate New York in 1893. The Pennsy men knew that if they were ever to beat this figure they would have to do some fast stepping.

For many years the Pennsylvania had been slugging it out with its traditional rival, the Vanderbilt system, for east-west traffic. There had even been a costly rate war which brought down the New York-Chicago passenger fare temporarily to two dollars! And on that sunny day 51 years ago when the Keystone road boldly announced a cut of five


18 Hours to Chicago
THE FASTEST LONG DISTANCE TRAIN IN THE WORLD.
JUNE 11, 1905
"THE PENNSYLVANIA SPECIAL"
WILL BE PLACED IN SERVICE ON THE
PENNSYLVANIA RAILROAD
BETWEEN
NEW YORK AND CHICAGO
ON THE FOLLOWING SCHEDULE DAILY:
Lv. New York (W. 23d St.) 3.55 P. M.
" " (Desb. and Cort. Sts.) 4.00 "
" Brooklyn 3.45 "
Ar. Chicago 8.55 A. M.
Lv. Chicago 2.45 P. M.
Ar. New York 9.46 A. M.
" Brooklyn 9.50 "
PULLMAN PARLOR SMOKING CAR, DRAWING-ROOM SLEEPING CARS, DINING CAR, AND COMPARTMENT OBSERVATION CAR
A BUSINESS DAY IN EITHER CITY
W. W. ATTERBURY, General Manager.
J. R. WOOD, Passenger Traffic Manager.
GEO. W. BOYD, General Passenger Agent.

This is the newspaper advertisement that started the speed war of 1905.

hours in the running time between America's two biggest cities, the Central followed suit, effective a week later, with the following explanation:

> This is simply applying in the Lake Shore between Buffalo and Chicago the time the *Empire State Express* has been making from New York to Buffalo for fourteen years, viz: 440 miles in eight hours and 14 minutes, and retaining for the New York Central the long-distance record of the world.
>
> It may be interesting to note that the running time of fast trains on the New York Central Lines is quite an old story. In 1893, twelve years ago, the Central and the Lake Shore, for the 180 days of the World's Fair at Chicago, ran their *Exposition Flyer* between New York and Chicago in twenty hours, and for the past three years the 20th *Century Limited* has performed the same service for our busy men.
>
> Practically a day saved in the journey between the two great cities of the continent; and for fourteen years the New York Central has had in service the *Empire State Express*, the most famous passenger train in the world, and the fastest for distance.

In 1895 the New York Central ran an experimental train from New York to East Buffalo, 436½ miles, in 128 minutes. This time included four stops and 28 slowdowns running through towns and cities.

Well, the chips were down! The competitors were almost evenly matched, although the Pennsy's east-west route was 60 miles shorter. But in those days the Pennsy had no station (except a ferry house) on Manhattan Island, so its fast schedule showed six minutes less than its rival's, allowing for a boat ride across the broad Hudson River between New York and Jersey City. Here are comparative figures as they were during the speed war of 1905, with running time given in minutes:

PENNSYLVANIA

Divisions	Miles	Time
Jersey City-Harrisburg	192	202
Harrisburg-Altoona	131	145
Altoona-Pittsburgh	113	150
Pittsburgh-Crestline	189	257
Crestline-Fort Wayne	132	132
Fort Wayne-Chicago	148	188
Total	905	1074

NEW YORK CENTRAL

New York-Albany	142	160
Albany-Syracuse	148	165
Syracuse-Buffalo	149	166
Buffalo-Cleveland	182	209
Cleveland-Toledo	108	120
Toledo-Elkhart	135	135
Elkhart-Chicago	101	125
Total	965	1080

These schedules show that, while the Pennsy took fewer minutes for the actual rail journey, the Central generally traveled at a higher rate of speed, which it had to do to cover a longer distance in the same time. Note also that each road had a mile-a-minute division, mostly in Indiana, which, because of its flat terrain and relatively straight track, is still referred to as "The Racetrack."

The Pennsy made three test runs each way between the Windy City and Crestline, Ohio, and each run featured some uncommonly fast traveling. Another test covered the 182 miles from Altoona to Harrisburg in 218 minutes. On June first division superintendents posted notices in crew rooms and roundhouses inviting the senior men to bid for crew positions on the *Pennsylvania Special.*

Six Atlantic-type engines, built at the company's Altoona shops, were selected to wheel the de luxe train, one over each division. There were four cars on the *Special's* first westbound trip: (1) the combination car with a library-smoking compartment, a buffet, a barber shop, a bathroom, and baggage space, weighing 110,000 pounds; (2) the diner, 132,000 pounds; (3) the 12-section drawing-room and stateroom car, 120,000 pounds, and (4) the last car, containing six compartments, an observation parlor, and an observation rear platform, 115,000 pounds. The entire train—engine and cars—weighed 726,100 pounds.

On the great day, June eleventh, company bigshots and local celebrities mingled with the multitude that jammed the drab-looking Jersey City trainshed to watch the new train depart.

Engineer John H. Warren leaned out of No. 1416's cab window to acknowledge the cheers, while Fireman O. Hoffman rested for a moment on his scoop. The gray-haired

Roaring past this depot at Elida, Ohio, in early morning darkness, Pennsylvania train set record of 127.1 miles an hour.

conductor, S. Bernard, resplendent with shiny brass buttons and a white carnation in the coat lapel of his new uniform, gave last-minute instructions to his flagman, F. A. H. O'Leary. Among the distinguished passengers on board was President Underwood of the Erie Railroad, who had an appointment in Chicago early the next morning.

At 4:14 p.m. Engineer Warren released his air brakes, yanked his whistle cord, and opened the throttle. He got off to such a fast start that wind-suction in the train's wake gathered a collection of straw hats and scattered them along the right-of-way.

The first 85 miles were eaten up in 75 minutes. Workers from yards, offices, shops, and factories lined the tracks, and eager crowds filled every wayside station as the train roared past. When the *Special* neared Philadelphia, where the Pennsy's head offices are located, she had to slow down to avoid ramming the *Congressional Limited*, one of America's swiftest trains, which had left the Jersey City terminal 45 minutes before her. Even at that, Warren reached North Philadelphia six minutes ahead of his schedule.

Everyone concerned was keyed up to give the *Special* the best possible service. At Harrisburg, the state capital, another high-wheeler replaced the 1416, the operation taking only 105 seconds instead of the four minutes allowed by the timecard. Then, after 131 miles of burnishing the rails to the next relay point, Altoona, there was another quick change of engines.

The *Pennsylvania Special* steamed majestically into Pittsburgh, with flags whipping the breeze, ten minutes ahead of the advertised. Spectators yelled their approval or gaped in awe-struck silence. Dispatchers, tense with excitement, glued their eyes to the train-sheets, listened for OS's, and gulped mugs of black coffee. Humble freights and passenger locals waited in the hole to let the speedster go through. You might have thought the *Special* was the only thing on wheels that day.

Engines were shuffled again at Pittsburgh, and the *Special* charged westward like a runaway comet. But just east of Mansfield, Ohio, the tender developed a hotbox. And so the lordly train went to sleep beside a field of unripened corn a million miles from nowhere while the crew made frantic efforts to cool the journal, but all in vain. Officials chewed their nails as they fussed and fumed and gave orders.

After a while a battered old switcher, known to her crew as "Miss Junk," rumbled up to the scene, with gray-haired S. Siebert pulling the latch. She was quickly coupled onto the *Pennsylvania Special* and you should have seen Brother Siebert rap that goat! They stormed into Crestline, 14 miles in 21 minutes. Not even in her palmiest days had the antiquated switching engine made a faster run.

Events were fast building up to a climax. Another iron horse took over the *Special*. The new steed was No. 7002, Class E-2, sleek and polished until her brasswork glittered like fire. Engineer Jerry W. McCarthy, a quiet-spoken little man with a graying handle-bar mustache, climbed into the cab, followed by his fireman, E. H. Tourgee.

The 7002 was built at Altoona in 1902. She had two pairs of 80-inch driving wheels and her cylinders measured 20½ by 26 inches. All of her wheels were rimmed with white paint for the occasion. Her steam pressure was 205 pounds per square inch. The inside of her firebox measured 72 by 11 inches, with 55½ square feet of grate area and 2,640

square feet of heating surface. In working order she weighed 176,600 pounds; the loaded eight-wheeled tender, 132,500 pounds. The tender carried 5,500 gallons of water and 22,000 pounds of good Pennsylvania coal.

Conductor John Walsh had orders to make up as much time as was possible with safety, which was just what McCarthy wanted. Half a century ago, enginemen could extend their steam locomotives almost to the limit on suitable track but, of course, had to reduce speed around curves, the extent of reduction in each case being governed by the degree of curvature.

It was 3:57 a.m. A bright moon lit the sky and baby frogs were singing a monotonous chorus in a nearby pond. McCarthy opened the throttle wide; he was 25 minutes late in saying good-bye to Crestline.

The ten-wheeled Atlantic swung into high tempo. Fireman Tourgee, young and strong, worked like a machine, his chest heaving and the firedoor clanking rhythmically as he bailed black diamonds into the white-hot maw. If enough steam would save the day, Tourgee was willing to sweat.

Bucyrus and Upper Sandusky flitted by like pickets on a fence. A fleecy smoke plume climbed to the stars and lost itself in the Milky Way. Calm and poised, with almost no effort at all, McCarthy covered the 72 miles from Robinson to Elida in 60 minutes. But even that wasn't swift enough. He decided to give the ballast a real scorching.

In AY tower the operator gaped with amazement. Never had they seen anything but a cyclone whiz by so rapidly. Nor had anyone else. History was riding an express that night. Eighty-inch driving wheels clicked over rail joints at a more accelerated pace than wheels had ever turned before.

Back in the plunging, swaying, gilt-trimmed cars, officials studied their synchronized stopwatches and looked at one another and grinned. Their new train had ridden to glory from AY to Elida, three miles in 85 seconds! That, they figured, was at the rate of a mile in 28⅓ seconds—127.1 *miles an hour!* And later, when they saw the train-sheets, they officially verified the new record.

All honor to Jerry McCarthy, who sent the *Pennsylvania Special* reeling to global fame! Mac earned his pay on that run. As Napoleon said to one of his marshals who was reclining on a pile of regimental flags captured from the enemy, "Rest on them, LaSalle! You have well deserved it."

But McCarthy did not rest until he reached the next division point. Dawn was gilding the rooftops and church spires of Fort Wayne, Indiana, and milk wagons were clattering over the cobble-stones when the *Special* rolled in with a flourish and stopped on a dime at 5:28, to be greeted, even at that early hour, by cheering spectators.

Despite his tight schedule, Mac had made up 17 of the 25 lost minutes. His streak of varnish was only eight minutes late when another Atlantic type, the 7003, with steam up and rarin' to go, stepped into harness for the final fast lap of the race to Chicago, with W. H. Gates on the right-hand side of the cab and J. E. Hoog firing.

Engineer Gates clinched the triumph by wiping those eight minutes off the sheet. Not only that, but when the train that is now the *Broadway Limited*, with engine bell ringing, eased into her western terminal at 8:52 a.m. she was three minutes ahead of schedule! The Erie's president, Mr. Underwood, had plenty of time to keep his Chicago appointment.

Counting delays, the average speed of the *Pennsylvania Special* for the entire trip was a mile in 69 seconds. It is interesting to note the timing system. The train dispatcher's wire was kept open and as the *Special* neared each tower, which in 1905 were only three to five miles apart, a telegraph operator would break into the open circuit to announce in clipped Morse, "Here she comes!" Then as the observation platform on the rear was passing his tower he would flash instantly, "Now!"

Thus all the data was recorded from the master clock in the office of Chief Dispatcher Homer B. Reynolds at Fort Wayne. This gave division officials a complete time check with stop-watch accuracy.

Newspapers of June twelfth hailed the event with banner headlines. For example, the *Fort Wayne Sentinel*: "Mile in Less Than Half Minute! . . . All Railway Speed Records Smashed!"

New York Central officials read the news with wry faces. Their fabulous 999 was dethroned, but they had no intention of letting that upstart of a Pennsylvania Railroad walk away with honors unchallenged. The very day those headlines appeared, General Manager Marshall and Chief Engineer Harvey, both of the Lake Shore & Michigan Southern, set out with a locomotive and three private cars on a rapid "inspection tour" from Buffalo to Chicago and, in spite of losing ten minutes at Cleveland, covered the 526 miles neatly in 470 minutes.

How much "inspection" they were able to make while traveling at better than a mile a minute is problematical. But they pointed out later to reporters that if they had rolled all the way from New York to Chicago at the same gait they would have

Jerry W. McCarthy, PRR engineer, the international rail-speed champion.

William H. Rau, Philadelphia, Pa.

The *Pennsylvania Special* (now *Broadway Limited*), with 4 cars, making her first 18-hour run from New York to Chicago.

spanned the two cities in 14 hours and 25 minutes.

"We were just loafing along," the general manager said with a twinkle.

The following day a Lake Shore express—four Pullmans and a Prairie-type engine—chalked up the Chicago-Buffalo run in 443 minutes. From Elkhart, Indiana, to Toledo, Ohio, 133 miles, she took only 114 minutes, which was not exactly dawdling. And from Toledo to Chicago she stepped through the dew for 108 miles in 90 minutes. Average speed, deducting time for stops, 70.9 miles per hour.

Tom Sherwood, a hogger who'd begun his railroading while Grant was marching on Richmond, took the 20th *Century Limited* out of Grand Central on her first 18-hour trip westbound to Chicago. The date was June 18th. On that day also the eastbound *Century* covered the 182 miles from Chicago to Buffalo in a mere 143 minutes easing into Buffalo 23 minutes ahead of her fast schedule!

Newspapers enthused over the Pennsy-Central race. The *New York Daily Tribune* asked editorially, "Is Chicago to become a suburb of New York?"

And then, on the night of June 21st, tragedy struck The eastbound *Century* ran into an open switch at Mentor, Ohio, and was ditched —on her fourth 18-hour trip from Chicago! Twenty-one crew men and passengers were killed.

What caused this million-dollar disaster is still a mystery. Evidence produced at the hearing pinned the blame on a tramp who had been forced to unload from a freight train and had hung around the Mentor depot, threatening to "get even."

Immediately afterward, the Central got cold feet and abandoned its 18-hour schedule. "While I agree with the operating officials that there is no physical reason why the schedule should not be continued," said President Newman, "nevertheless, in my judgment, the time of the 20*th Century Limited* should be restored to twenty hours, and it will be done at once. No further effort will be made to cut the time between New York and Chicago as long as I hold the reins."

But Pennsy officials refused to be panicked and insisted that their own 18-hour run was perfectly safe. In this they were backed up by the Ohio State Commissioner of Railways and Telegraphs. After making a personal investigation, the commissioner said that the Mentor wreck would have been much worse if the train had been running more slowly. Thereupon the Pennsy came out with a newspaper ad entitled, "Over 900 Miles to Stone Ballast," which read:

From the banks of the Hudson to the shores of Lake Michigan . . . the longest stretch of stone-ballasted railroad in the world. . . . It is safe . . . and it is the speedway of the *Pennsylvania Special,* New York to Chicago overnight.

That was too much for the Central, and on June 26th President Newman did a right about face. He restored the fast schedule on the ground that it was not only safe but also "imperative," so long as the Pennsylvania kept its 18-hour service.

Thus ended the speed war of June, 1905. Today, after years of seesawing up and down, the Central and the Pennsy have pegged their New York-Chicago time at 15¾ hours, except that the *Broadway's* eastbound time is 15½.

As for the 7002, which set the all-time record for steam, she was remodeled in 1916 into a Class E-7sa engine, still an Atlantic type. Finally in 1934, after 32 years of successfully pounding the high iron, she succumbed to the blow-torch at Grand Rapids, Michigan.

Her top figure of 127.1 miles an hour still holds for *regularly scheduled* trains all over the globe, although the progressive French National Railroads did reach 206 in *test runs* with electric power. Not one of Rudolf Diesel's machines, as far as we know, has ever matched the great speed performance of Atlantic-type 7002, the world's fastest steam locomotive. ●

Pennsylvania Railroad

Camden engine terminal of P-RSL photographed by Aaron G. Fryer, 6601 Drexel Rd., Philadelphia, Pa.

Motive Power Roster Compiled by Sy Reich

STEAM LOCOMOTIVES

Class	Road Nos.	Wh. Arra.	Tr. Eff.	Total Wt.	Driv.	BP	Cyls.	Bldr.	Built
B-6ab	113, 1485 1496, 1644 1670, 1810 3233, 4001, 4035, 4097, 4165, 4191, 5244, 5224, 5261, 6361, 6380, 6391, 6399	0-6-0	36,144	305,300	56	205	22x24	PRR	1916- 1927
B-8a	2796	0-6-0T	29,871	167,700	56			Bald. PRR	1905- 1912
H-9s	297, 536 649, 685 784, 858 1123, 1130, 1196, 1273, 1659, 1743, 1777, 1785, 1796, 1920, 2857, 2887, 2897, 3098, 3412, 3437, 3520, 3548, 3556, 3615, 3778, 4050, 4077, 4124, 4156, 5008, 5216	2-8-0	49,183	410,200	62	205	26x28	Bald. PRR	1907- 1917
H-10s	7138, 7151 7234, 7320 7347, 7371, 7551 7552, 7555 7557, 7558, 7688, 7798, 7799, 8014, 8063, 8173, 8198, 8220, 8245, 8259, 8276, 8301, 8320, 8382, 8627, 8675, 8678, 8686, 8688, 8693, 9447, 9889, 9890, 9895, 9902, 9906, 9908, 9910, 9913, 9940, 9943, 9954, 9958, 9974, 9986, 9989	2-8-0	HF:53,197 SF:53,197	424,070 444,470	62	205	26x28	Alco Bald. Lima PRR	1907- 1916
I-1sa	85, 304 515, 1071 1126, 1190 1296, 1753 4256, 4258, 4268, 4270-4273, 4293, 4305, 4306, 4308, 4311, 4314, 4315, 4320, 4324, 4330,2040, 2871, 2945, 3385, 3445, 3723, 4230, 4231, 4233, 4237, 4238, 4245, 4249, 4253, 4334-4336, 4343, 4350, 4352, 4362, 4371, 4378, 4383, 4389, 4390, 4393, 4398, 4402, 4407, 4408, 4414, 4420, 4435, 4449, 4456, 4459, 4471-4473, 4478, 4481, 4483, 4497, 4499, 4511, 4514, 4519, 4521, 4523, 4524, 4528, 4543, 4549, 4552, 4557, 4576, 4578, 4587, 4594, 4595, 4599, 4607, 4611-4613, 4616-4620, 4623, 4625, 4626, 4628, 4632, 4635, 4644, 4649, 4650, 4652, 4658, 4669, 4671, 4682, 4688, 4695, 6333	2-10-0	96,026 FWH 96,026 FWH&FC 96,026	585,800 590,800 577,800	62	250	30½x32	PRR & Bald.	1916- 1923
J-1	6150-6174 6435-6474	2-10-4	110,100	989,475	69	270	29x34	PRR	1942- 1944
J-1a	6401-6434 6475-6500	2-10-4	110,100	989,475	69	270	29x34	PRR	1943
K-4s	646, 830 920, 1517 3678, 3747 3750-3752, 3755, 3807, 3858, 3872, 3880, 5022, 5351, 5379, 5406, 5420, 5422, 5423, 5439, 5467, 5475, 5497	4-6-2	44,460	554,600	80	205	27x28	Bald. PRR	1914- 1928
K-4sa	612	4-6-2	44,460	554,600	80	205	27x28	Bald.	1917
L-1s	26, 110 117, 121 180, 203 242, 305 370, 426, 469, 473, 520, 533, 546, 554, 559, 633, 762, 1138, 1194, 1343, 1348, 1349, 1365, 1369, 1429, 1582, 1596, 1638, 1682, 1685, 1715, 2369, 3499, 3600, 4030, 6265, 6306, 8148, 8260, 8280, 8283, 8426	2-8-2	61,465	523,100 517,800	62	205	27x30	Bald. Lima PRR	1914- 1919
M-1	6810, 6811 6815, 6816 6825, 6840 6888, 6899 6921, 6937 6940, 6948 6967, 6969 6979	4-8-2	64,550	796,400 789,200	72	250	27x30	Bald. Lima PRR	1923- 1930
M-1a	6793	4-8-2	64,560	768,360	72	250	27x30	Bald. Lima PRR	1923- 1930
M-1b	6704, 6711 6715, 6717 6724, 6726 6729, 6732- 6734, 6736, 6738, 6739, 6744, 6747, 6749-6751, 6753-6755, 6758, 6760-6762, 6779, 6782, 6783, 6787, 6797	4-8-2	64,560	768,360	72	250	27x30	Bald. Lima PRR	1923- 1930

No. 5940, Class L-6a, was the Pennsy's only Lima-built electric. Fifty units like her were ordered for freight, but the order was cancelled abruptly. P-5a's handled the freight intended for this class. G-GI's took P-5a's passenger service.

Two DD-1 locomotives (four units) are used in the Pennsy's Sunnyside Yards in Greater New York. Operating on third rail, they propel wire trains in the East River and Hudson River tubes, and help in emergency if AC power is turned off.

Four photos by Sy Reich, 92 St. Marks Pl., New York City

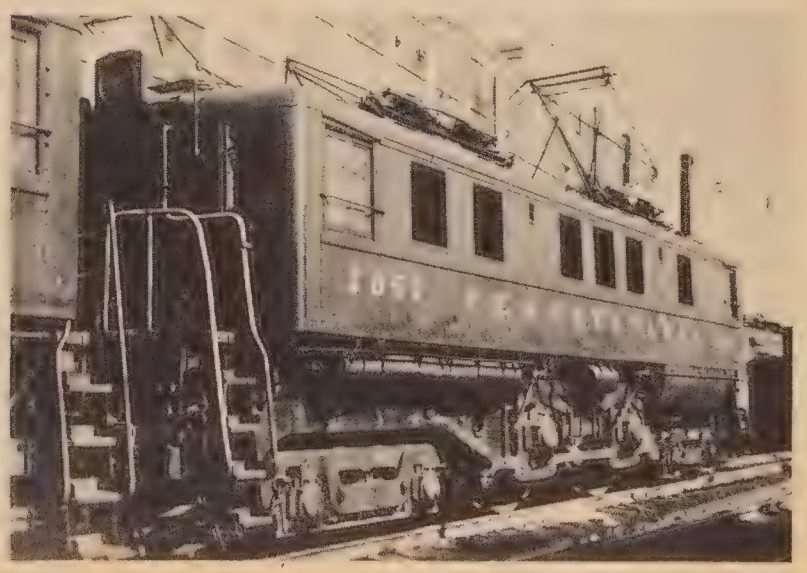
ELECTRIC LOCOMOTIVES

Class	Road Nos.	Wheel Arrangement	HP	Tr. Ef.	Total Wt.	Driv.	Bldr.	Built
B-1 ex BB-2	3900,3901 3910-3921 5684-5697	C	570	39,300	157,000	62"	PRR PRR-WH	1926, 1934-1935
DD-1	3936,3937 3966,3967	4-4-0+0-4-4	1580	50,850	328,400	72"	PRR	1910-1911
DD-2	5800	2-B-B-2	5000	71,500	450,000	62"	PRR	1938
E-2b	4939-4944	B-B	2500	61,375	245,000	48"	GE	1951
E-2c	4997,4998	C-C	3000	90,495	361,980	44"	WH	1952
E-3b	4995,4996	B-B-B	3000	94,500	378,000	44"	WH	1951
GG-1	4800-4938	2-C-C-2	4620	frt. 75,000 pass. 70,700	460,000 477,000	57"	GE & PRR Bald.-GE	1934-1943
L-6	5938,5939	1-D-1	2500	55,000	300,000	62"	PRR	1932
L-6a	5940	1-D-1	2500	55,250	305,110	62"	Lima	1933
O-1a	7853	2-B-2	2500	33,500	309,400	72"	PRR	1930
O-1c	7857	2-B-2	2500	33,500	300,000	72"	PRR	1931
P-5	4700	2-C-2	3750	55,000	392,000	72"	PRR	1931
P-5a	4701,4703-4742,4755-4774	2-C-2	3750	55,000	392,000	70"	GE & WH	1932-1934
P-50 mod.	4743-4754, 4775-4790	2-C-2	3750	57,250	394,000	70"	GE, WH & PRR	1934-1935
P-5b	4702	B-C-B	5350	55,000	444,700	72"	WH	1932

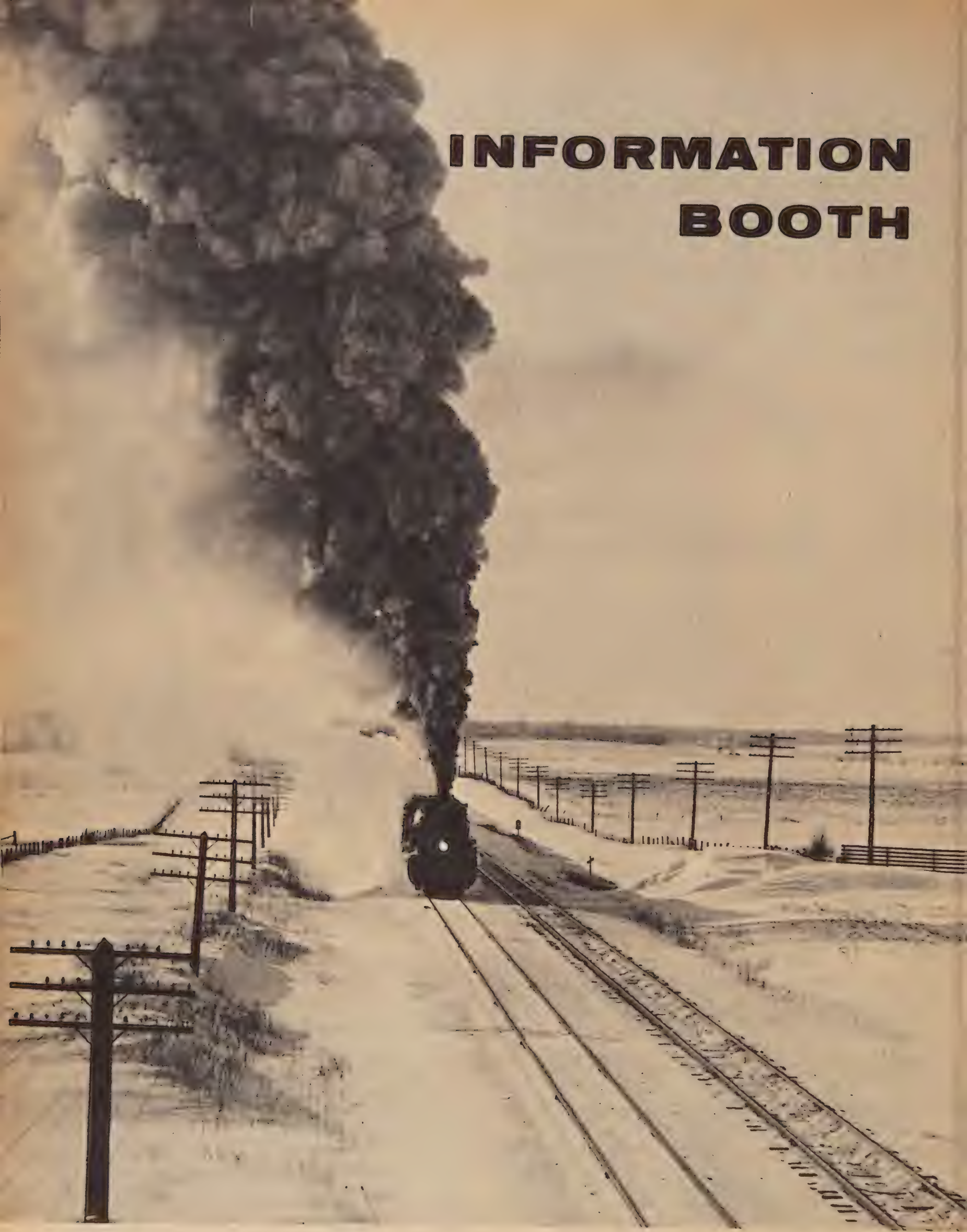
(Pennsylvania Diesel-Electric Power on Page 55)

This P-5a has just been serviced at the Meadows in New Jersey. The 2-C-2's, originally designed for passenger service, now form the backbone of Pennsy electric freight operation. A crossing accident led to building cabs shaped like those G-GI's on the other Class P-5a locomotives.

Class O-1c engine, one of a series of experimental 2-B-2's, waits her turn at Sunnyside, the world's largest passenger yards. The only other surviving Class O locomotive is No. 7853, an O-1a. Both of them are being used today as passenger switches at New York's Pennsylvania Station.



INFORMATION BOOTH



David Plowden, 1239 Madison Ave., New York City

ASK BARBARA: **Railroad questions are answered here every issue by our research expert—as many as space permits. Top priority is given to subjects that seem to be of wide general interest. Address Miss Barbara Kreimer, *Railroad Magazine*, 205 E. 42nd Street, New York 17, N. Y. No replies will be sent by mail.**

1 (*a*) *What is the world's fastest regularly scheduled train?*

The *Mistral*, which links Paris with the Riviera, on the French National Railroads. A new timetable which went into effect this June gives her a top speed of 100 miles per hour.

The *Mistral* consists of stainless-steel cars, air-conditioned, pulled by a sister of the electric engine that made the world's highest rail-speed record, 206 mph, also on the French National, on a 40-mile run in 1955. Note that the *Mistral's* top speed is authorized by a regular schedule. The 206 mph was achieved only on a test run. America's fastest scheduled runs, on the Burlington's *Twin Zephyrs* and the Great Northern's *Empire Builder*, are nearly 16 mph slower than the *Mistral's* zenith. (Photo on page 47.)

2 *How many women are employed as railroad telegraph operators in the United States and Canada?*

We don't know. About 60,000 women are employed in all kinds of railway service, but we do not have a breakdown of specific duties.

3 *What are transportation excise taxes?*

Taxes on money paid for the transportation of persons or property by a common carrier. They were imposed in America in 1941 as a wartime measure to raise revenue and to discourage unnecessary civilian travel during World War II. Although levied in an emergency, they never have been repealed and are reflected today in the high price of passenger tickets, sleeping-car space, and other accommodations, as well as freight charges.

4 *Why would a boxcar labeled "West India Fruit & Steamship Co." be in the Pennsy yards at Harrisburg, Pa?*

Because the maritime company operates 265 boats that carry freight cars between Palm Beach and Havana. Freight originating anywhere in the U. S. or Canada can be moved to Cuba in the original car without transfer.

5 *Does cold weather contract rails to any appreciable degree?*

More than you might imagine. During one cold snap in Canada the Canadian Pacific rail distance cross-country was reduced by almost 2¼ miles! This does not mean that passengers had to detrain short of their objectives. Actually, the missing mileage was deducted in small contracted lengths across the 3,363-mile trans-Canada line.

The CPR boasts some 20,000 miles of right-of-way. Intense cold can shorten their rails temporarily by as much as 13½ miles. The railway gets it all back—and a little extra—in summer.

6 *Is it true that the Southern Pacific employes do not get free summer passes?*

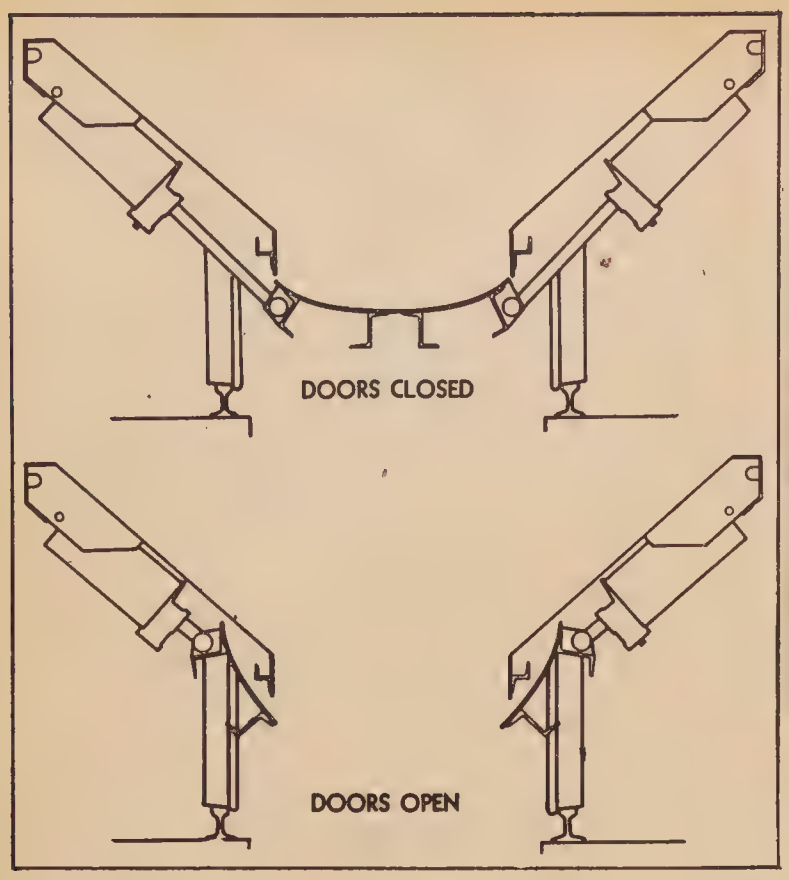
Yes. If they ride Espee trains between June 1 and September 30 they pay one cent a mile.

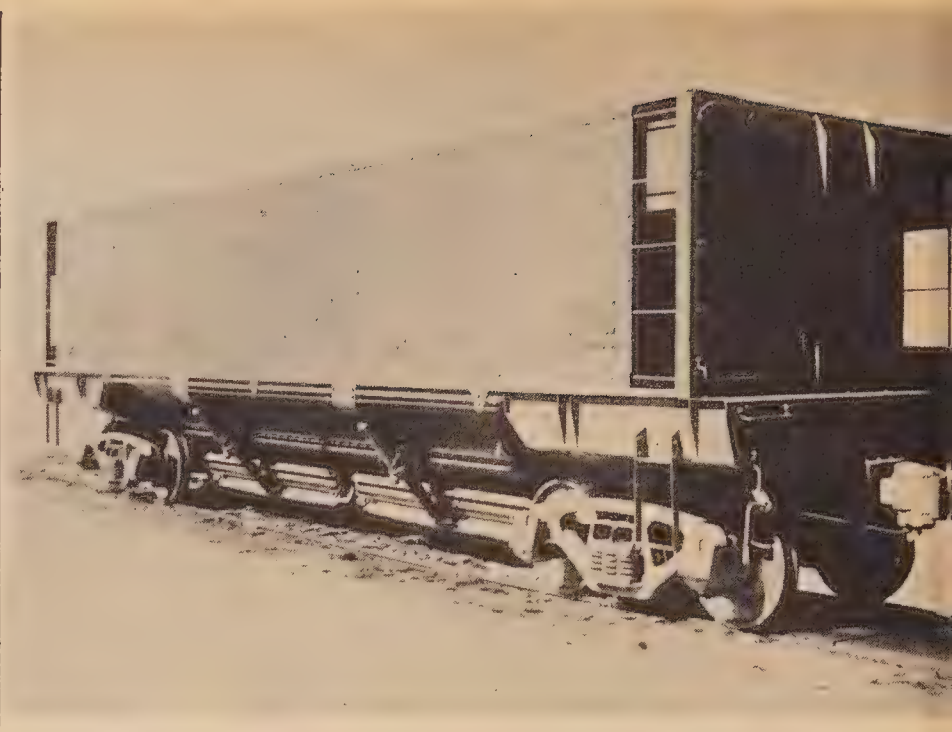
7 (*a*) *How many refrigerator cars operate in the U. S.?* (*b*) *How many are owned by each firm or railroad?*

French National Railroads

World's fastest regularly-scheduled train, the *Mistral* of the French National Railroads, attains top speed of 100 mph on run between Paris and the Riviera.

Great Northern's No. 3387, a 2-8-2, Class 0-8 engine, wheels a 56-car drag eastward out of Willmar, Minnesota.





New 100-ton hopper cars have air-operated clamshell doors which allow instant dumping. Baldwin-Lima-Hamilton, Eddystone Division, is building them for River Queen Coal Company and Kansas Power and Light Co. Photo shows a 70-ton car of same type.

(c) What is the average cost per car?

(a) 121,278. (b) Railroad-owned, 19,018; railroad-controlled private lines, 78,693; non-shipper private lines, 18,524; shipper private lines, 4,424. (c) It varies from $11,000 for iced reefers to about $25,000 for those with mechanical refrigeration.

8 *(a) Is the Milwaukee Road fully dieselized? (b) Does it have any steam engines stored on the West Coast?*

(a) Yes, except for juice locomotives used on electrified sections of Rocky Mountain and Coast divisions. (b) No.

9 *Tell me about the first Decapod-type engines.*

Two Decapods (2-10-0's) were built by Norris at Lancaster, Pa., in 1867, for the Lehigh Valley. Named *Ant* and *Bee*, they were used for heavy freight. Because of their long, rigid wheel-base, they were rebuilt years later with four pairs of drivers and a two-wheel rear truck, which changed them to 2-8-2's.

Baldwin's first Decapods were two of three-foot gage, built in 1881 for the Mexican National Construction Co.

10 *Tell me about the new 100-ton capacity coal-type hopper cars.*

Baldwin-Lima-Hamilton has 65 such cars in production for delivery this year. Each has an air-operated clamshell-door mechanism, weighs approximately 65,000 pounds, and has a level full capacity of 119 cubic yards and a heaped capacity of 140 cubic yards.

The cars will be used mainly on mining company tracks but also on main-line tracks. Switching charges are based on a pre-car rate, regardless of size. Three of the new cars could haul more coal than four of the 70-ton type, which provides a lower switching cost per ton hauled.

11 *How many railroads serve the state of Alabama?*

Twenty-seven; mileage, 4,668.

12 *What kind of signal was pictured on page 39 of your April issue?*

Jesse Grigg, an oldtime brass pounder, identifies it as the "Swift" type, believed to have been an outgrowth of the flag-and-lantern method of signaling. In principle it was safe and simple, consisting of coarse threads in the spindle and hub which supported the vane. The rotable assembly fell of its own weight when freed, turning through 90 degrees as it did. Tension in a cord attached to the arm rotated the vane upward to "clear," while slack allowed it to rotate downward to "stop." If the cord broke, "stop" was automatically displayed. The lamp indication had to agree with that of the vane.

13 *How much of America's rail freight is hauled by diesel locomotives?*

89 percent, based on train-miles.

14 *Is there a type of railroad-car journal that will not overheat?*

There are reportedly several such types. For years railroads have been experimenting with lubricators to replace the loose cotton packing in journal boxes.

For instance, the Pennsy has tried tube-shaped rolls of cotton sponging packed tightly in the journal box, as well as Plypak, a rubber container designed to hold waste firmly. Other lines use the Miller lubricator, a heavy blanket which surrounds a canvas-covered synthetic rubber core.

Another device is the NMB oil circulator of nylon and synthetic rubber which keeps oil flowing in all parts. It has a bellows-type oil seal of metal, nylon, and synthetic rubber, which remains durable in desert heat and to below zero temperatures. It is identified by bright yellow journal-box lids.

Early this year a number of lubricators were submitted to the Association of American Railroads for testing, in the hope that a universal device may be adopted. The AAR decision is expected in August.

15 *Tell me more about the engine* A. G. Darwin, *pictured in April.*

She was Santa Fe No. 738, built under Strong patents at Schenectady Locomotive Works in 1887, with grid-type valves and corrugated firebox. (Possibly the first 4-4-2 ever built.) She was rebuilt to the same type in 1892 and scrapped at Topeka, Kan., in

1925. Like all other Camelbacks, her cab was entered from the front.

16 *Where is the world's largest vertical lift span?*

It is now being built over Arthur Kill between Arlington, Staten Island, N. Y., and Elizabeth, N. J. When completed in 1959, it will carry the tracks of the Staten Island Rapid Transit, a Baltimore & Ohio subsidiary. Construction was ordered by the Secretary of the Army to facilitate navigation, replacing a swing span built in 1888. The new bridge will be a single-track structure 1,647 feet long between abutment back walls. The west approach will include the longest B&O girder span ever constructed, 162 feet.

17 *How much lading does the average North American freight train carry?*

About 1,420 tons.

18 *Why don't European locomotive whistles have the deep tone and long-range carrying power of those used in North America?*

Since Europe has relatively few grade crossings, our type of whistle is not necessary there. The high-pitched European whistle is used mostly for signaling trainmen. The deep-toned whistle used in America is mandatory in most states of the Union because of the many grade crossings.

A similar situation applies to locomotive bells, which very few European trains use.

19 *Are coal and water capacities on Canadian locomotive tenders shown in English or American measure?*

Coal is indicated by the American short ton, 2,000 pounds; water by Imperial gallons.

20 *I have 30 years' service with Railway Express Agency. Will my wife be eligible for annuity at age 62 under the Railroad Retirement Act?*

No. Under that Act both husband and wife must be 65 before the wife is eligible. At age 60 a widow is eligible for an annuity from the Railroad Retirement Board. Under the Social Security Act, she is not normally eligible for benefits until age 62. Under recent changes in the Social Security Act, both husband and wife qualify for *full* benefits. The wife may apply for *reduced* benefits if she is 62, but cannot do so unless her husband is 65 and has retired under the Social Security Act.

21 *Recently I saw a Delaware & Hudson locomotive in the Pennsy yards near Newark, N. J. Please explain.*

The Pennsy may have rented her. This is common practice among roads having a large volume of traffic.

22 *My grandfather used to work for the Pennsy. He told about a fancy steam engine that pulled the pay car. Is she still in service?*

No, she was scrapped many years ago. U. S. railroads have long since discontinued the use of pay cars. Possibly your grandfather referred to the Pennsy's elegant No. 929 which wheeled the pay car on the Philadelphia Division. She was a beauty of highly-polished black, trimmed with gleaming brass and copper, and so privileged that she could not be stabled with the other iron horses at the Harrisburg enginehouse. No. 929 had her own stall!

23 (*a*) *When do the railroads expect to operate nuclear-powered locomotives?* (*b*) *Maintenance-wise, how would such engines compare with motive power presently in use?*

(a) Possibly by 1970. (b) They should run for a year or two without inspection.

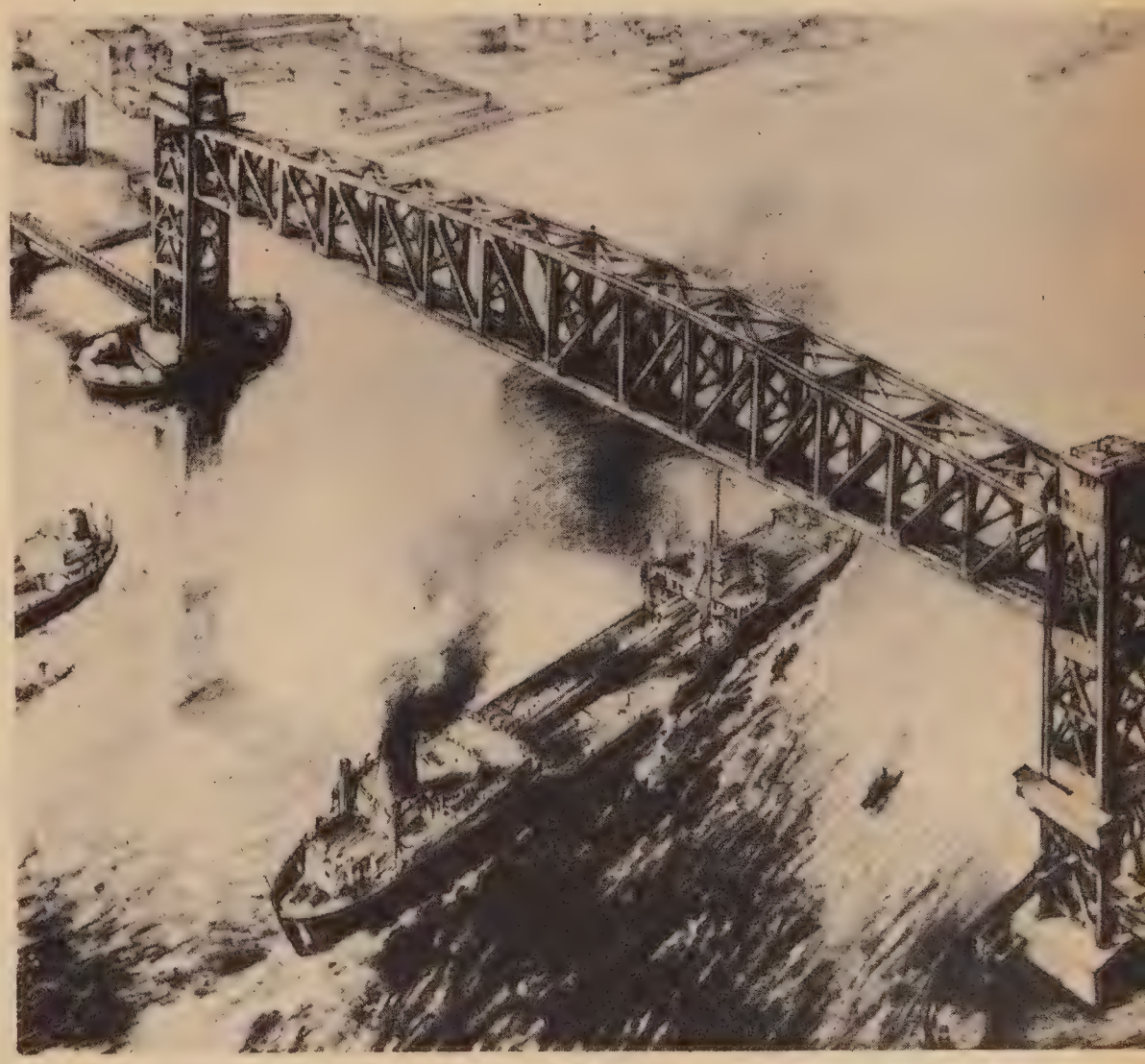
24 *What term is used for grouping freight cars with similar destinations or routings?*

Prior classification.

25 *How can a non-railroader get a railroad book of rules?*

We don't know of any legitimate way. These books are issued only to employes, who, at the expiration of service, are requested to return them. Some roads publish more than one. The Western Pacific, for instance, has a separate book for its Maintenance Department and one for conductors, brakemen, engineers, firemen, switchmen, etc.

General information on the subject can be found in *Rights of Trains,* available through Simmons-Boardman Publishing Corp., 30 Church St., New York, at $4.95. The author, Peter Josserand, a Western Pacific train dispatcher, is now working on a revised edition of this standard book. He is a frequent contributor to *Railroad Magazine.*



Artist's conception of world's largest vertical lift span, now being built over Arthur Kill between Arlington, Staten Island, N. Y., and Elizabeth, N. J. Completion is expected in 1959, when it will carry tracks of B&O's Staten Island Rapid Transit Ry.

26 *Explain the derivation of the Chesapeake & Ohio's* FFV *train.*

The name *Fast Flying Virginian* was adopted in 1888 because this handsomely-appointed train passed through the Old Dominion, home of the F.F.V. (First Families of Virginia).

27 (*a*) *Does the Burlington still use Mallets?* (*b*) *Tell me about them.*

(a) No. (b) Between 1908 and 1911 the CB&Q placed a number of articulated compound Mallets in operation. Baldwin built them for heavy freight and pushing service. Ten were 2-6-6-2's, Class T-2. A novel feature was the boiler, composed of two sections and bolted together to form one rigid structure. The joint was in front of the high-pressure cylinders. The rear section had a fire-tube superheater, and the forward one had the smokebox.

Here are specifications: Cylinders 23x35x32, 64-inch driving wheels, 200 pounds steam pressure; grate area, 63.8 square feet; water heating surface, 5090 feet; superheating surface, 464 square feet; weight on drivers, 304,500 pounds; total engine weight, 361,650 pounds, and tractive force (compound), 63,500 pounds.

The 17-inch flue contained a nest of 19 tubes, each two inches in diameter, through which the high-pressure exhaust passed on its way to low-pressure cylinders. The idea was to reheat this steam, utilizing the furnace gases passing through the flue.

These locomotives were designed to operate on grades of 1.6 percent and curves up to 20 degrees. They burned lignite fuel.

In 1911 the Burlington placed in service a larger Baldwin Mallet, 2-8-8-2. She weighed 448,000 pounds, 406,000 on driving wheels, and had a separable boiler similar to that of the 2-6-6-2's. Only one of them was built.

28 *How are steam locomotive repairs classified?*

The current system was started by the U. S. Railroad Administration in 1918 to aid in uniform reporting. The amount of work involved diminishes as the class number increases, Class 1 being the most extensive. Running repairs are not classified.

CLASS 1—New boiler or new back end. Flues new or reset. Tires turned or new. General repairs to machinery and tender.

CLASS 2—New firebox, or one or more shell courses, or roof sheet. Tires turned or new. General repairs to machinery and tender. Flues new or reset.

CLASS 3—Flues new or reset (superheater flues may be excepted.) Necessary repairs to firebox and boiler. Tires turned or new. General repairs to machinery and tender.

CLASS 4—Flues part or full set. Light repairs to boiler or firebox. Tires turned or new. Necessary repairs to machinery and tender.

CLASS 5—Tires turned or new. Necessary repairs to boiler, machinery and tender, including one or more pair of driving wheel bearings refitted.

General repairs to machinery include driving wheels removed, tires turned or changed, journals turned if necessary, and all bearing boxes and rods overhauled for a full term of service.

Locomotives receiving Class 1, 2 or 3 repairs must be put in condition to perform a full term of service in the district and class of service in which they are to be used. Locomotives receiving Class 4 must be put in condition to perform not less than one-half, and those receiving Class 5 repairs must be put in condition for one-fourth term.

This information is furnished by Jack O'Donnell. We clipped it from *The Mixed Train,* a railfan monthly published by Dick Orr, 6506 Western Ave., Omaha, Nebraska.

29 *What is a truck rail?*

A system of freight handling similar to piggyback in that it is truck-loaded, but instead of hauling 3,000 pounds of trailer wheels the boxlike body is lifted off its frame by a huge traveling crane and anchored flat on a gondola.

30 *How long does an engineer wait for a flagman to return to his train?*

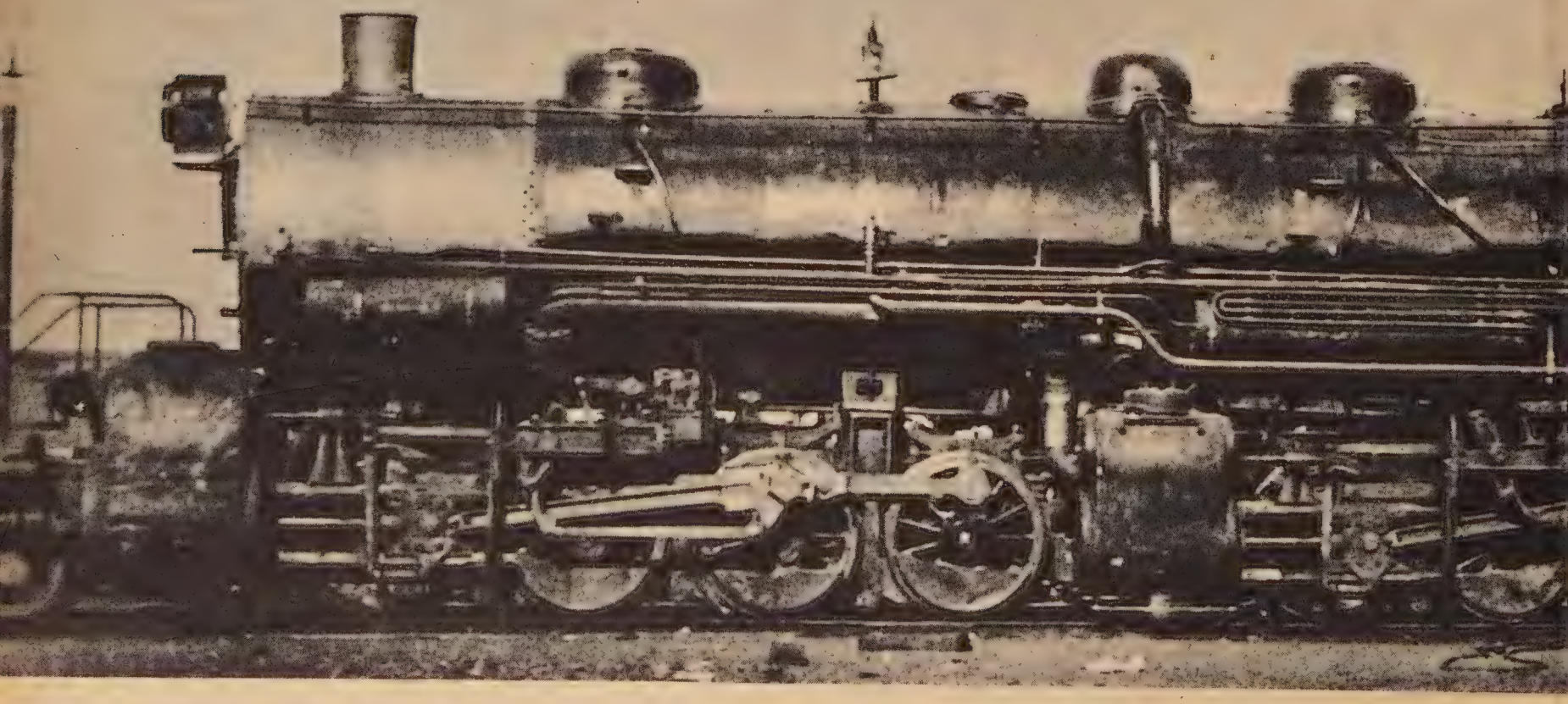
There is no time limit, according to Bill Knapke, retired Espee conductor, who says: "The skipper will signal him. On some roads, a flagman takes a fusee even in daytime, which protects him for 10 minutes while returning to his train. The time it takes him (when recalled by whistle) varies according to conditions. The flagman of a train climbing a hill would not go as far back to protect his train as one whose train was descending a grade."

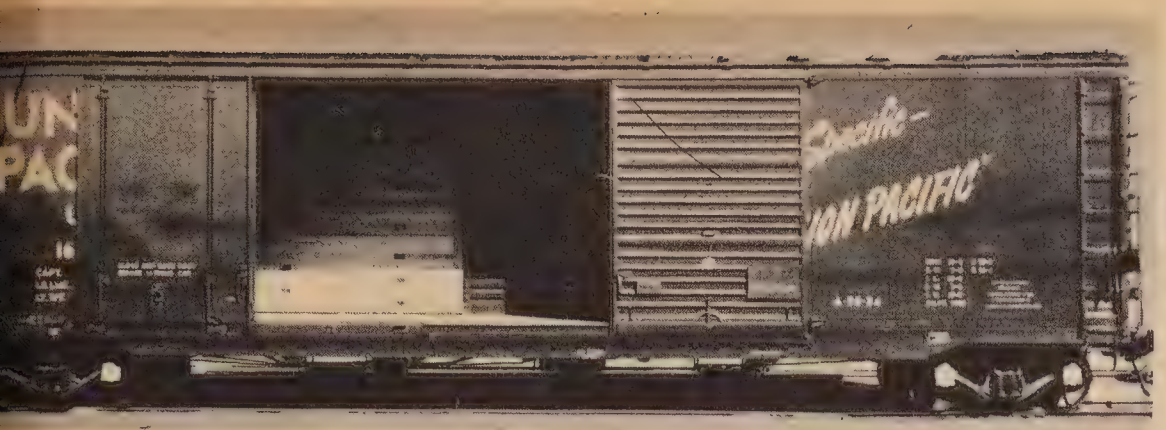
31 *I saw on the Illinois Central an odd-looking train of eight cars, which moved slowly and gave off a shower of sparks. What was it?*

You were looking at a rail-grinder train. Each of its cars is fitted to specially-built pony trucks, suspended from the underframe which carries 96 power-driven abrasive wheels for grinding on both rails simultaneously. These

Burlington compound Mallet, Class T-3, at West Burlington Shops. This 2-8-8-2, built by Baldwin in 1911, was retired in

E. A. Goerner, Burlington Route





(Above) More than 500 of these plug-door cars, first of their type on any railroad, are being built by the Union Pacific and put into service. Conversion from single- to double-door cars make shipments of various commodities possible. Similar to those on reefers, plug doors have same thickness as walls. Linings are composite steel and wood. (Right) Northern Pacific has curb-service ticket office at St. Paul.

trucks can be raised or lowered from the rails by pneumatic cylinders. Total metal removed as the train passes at two mph is between 0.008 and 0.00 inches. Rail-grinders are built and operated by the Frank Speno Railroad Ballast Cleaning Co., which rents the equipment to various roads on a time basis.

32 *Is the Louisville & Nashville an all-diesel road?*

Yes, except for one steam locomotive used on a lend-lease basis by a subsidiary road, the Carrollton, running between Carrollton and Worthville, Ky.

33 *What is the base pay for an engineer and a fireman on U. S. railroads?*

An engineer averages from $17.58 to $26.01 per day, depending on the type of locomotive he operates. A fireman's pay, on the same basis, runs from $15.27 to $21.77. All rates of pay are subject to COLA (cost-of-living adjustment), which are gaged according to increase or decline in the Consumer Price Index. But rates of pay effective Nov. 1, 1956, will not be subject to decrease under COLA provisions of the Nov. 20, 1956, agreement.

34 *Why do the railroads lose money on commuters?*

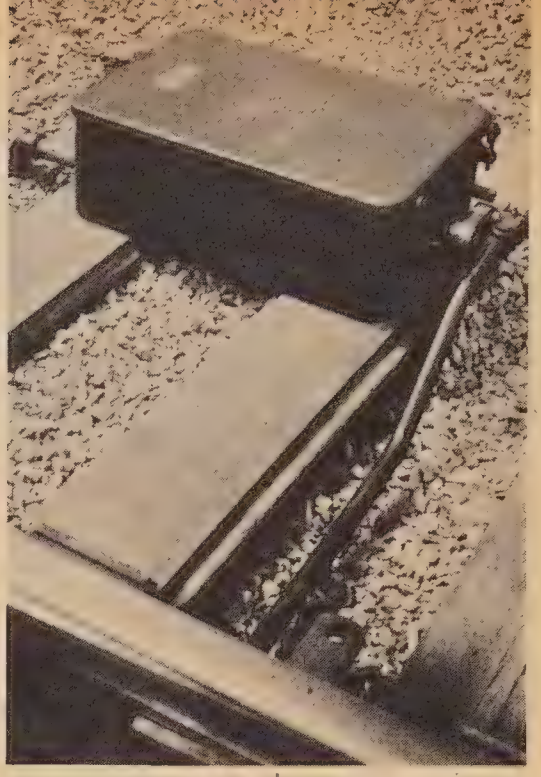
One big factor is the rising cost of labor and maintenance. Another is the *laisé faire* attitude that leads commuters to regard the service as an obligation on the part of railroads. Rates have increased over the past ten years, to the annoyance of many riders. It is important to show them the other side of the picture.

Government money (which they pay in taxes) is spent on highways that are equipped to carry only a small portion of people to jobs. For example, a single lane of grade-separated highway can accommodate 2,600 persons an hour in automobiles, and 9,000 in buses, whereas a single line of railroad transports 35,000 persons per hour.

Of course, the railroads find the commuter problems increasingly acute

August, 1934. She weighed 406,000 pounds on driving wheels; total weight, 448,000. Only one of this class was built.

Newspapers are wheeled aboard Montauk-bound train, by new device, designed and built by the Long Island Railroad, a low-slung, two-wheeled vehicle that loads papers into baggage car in one quarter of the time required by the old method.



Yard switch machine replaces switch stands; cuts manpower and train time; is easy to install, economical to maintain.

in proportion to the number of automobiles on the highways.

The fact that commuter lines are geared to rush hours makes for an exorbitant amount of idle time on the part of personnel and equipment. For instance, passenger coaches stand in the yards 83 percent of the time, and 59 percent of the wages paid to the passenger trainmen in commuter service represents time paid to keep them available for peak hours.

35 *How many short line railroads are there in the United States?*

Depends on what you mean by "short line." If you refer to members of the American Short Line Railroad Association, there are 286, employing a total of more than 75,000 workers.

36 (*a*) *Does any United States mail move by piggyback?* (*b*) *Do British Railways use this system?*

(a) Yes. For example, during the Christmas rush last year the Southern Pacific hauled about 6,000 sacks a day by trailer flatcar service. (b) Yes. Even before World War I, vans filled with meat were loaded on flatcars of the London & Southern Railway at Southhampton and taken by rail to London, where horses hitched up to the vans hauled the meat to city markets.

37 *Give details on all locomotives operated in Canada prior to* 1840.

DORCHSTER, 0-4-0 type, 10x16 cylinders, 48-inch driving wheels, built by Robert Stephenson and Company, New Castle-On-Tyne, England, in 1836 for the Champlain & St. Lawrence.

JASON C. PIERCE, 4-2-0 type, 10¾x20 cylinders, 46½-inch driving wheels, built by Wm. Norris, Philadelphia, in 1837 for the Champlain & St. Lawrence.

SAMSON, 0-6-0 type, 15¾x18 cylinders, 48-inch driving wheels, built by Timothy Hackworth, New Shildon, in 1838 for General Mining Association.

HERCULES, 0-6-0 type 15¾x18 cylinders, 48-inch driving wheels, built by Timothy Hackworth, New Shildon, in 1838 for General Mining Association.

JOHN BUDDLE, 0-6-0 type, 15¾x18 cylinders, 48-inch driving wheels, built by Timothy Hackworth, New Shildon, in 1838 for General Mining Association.

We also have records of five engines put into Canadian service in 1847, five in 1848, and two in 1850.

38 *How many U. S. railroads operate* 1,000 *or more miles of track?*

Forty-four.

39 *What depot did the Pennsy use in Baltimore, Md., before its present station was built there?*

Various lines that are part of the Pennsy used several. Prior to 1850 and the opening of the President St. Station, the Philadelphia, Wilmington & Baltimore used the B&O's Pratt St. Station. Then in 1882, passenger service was transferred to Union Station. The Baltimore & Susquehanna opened its Calvert St. Station in 1850. The first station of the Baltimore & Potomac was on Lafayette St., and the second, opened in 1872, at Pennsylvania Ave. and Cook St. The present Penn Station was opened in 1911.

40 (*a*) *Does the Baltimore & Ohio still use Mallets?* (*b*) *Does it have any steam-powered passenger trains?*

(a) Yes, B&O uses EM-1 articulated, mostly between Wheeling, W. Va., and Lorain, Ohio, hauling coal drags for reshipment. All others have been scrapped. (b) No.

41 *Why don't more railroads operate pick-up-and-delivery service for LCL freight, such as the C&NW offers?*

Experience has shown that it is unprofitable. As a matter of fact, the C&NW filed a notice with the ICC to discontinue it because the cost in 1956 exceeded $1,500,000. At this time the railway pointed out that certain competing agencies made its service unnecessary.

42 *What is a yard-switch machine?*

A time- and labor-saving device for yard switching which one man can operate in two seconds. It employs 110-volt power and has a detachable lever that can be used manually.

43 *Which states have* (*a*) *the most and* (*b*) *the fewest railroad employes?* (*c*) *Supply a state-by-state list.*

(a) Illinois. (b) Rhode Island. (c) The following tabulation by the Association of American Railroads shows nearly a million and a quarter employes in the U. S. with a total annual payroll of well over five billions. These figures cover only Class I line-haul and switching and terminal companies. They do not include short lines or companies closely associated with the railroad in-

dustry, such as Pullman, Railway Express, and the like.

Alabama	14,325	Nebraska	20,180
Arizona	6,335	Nevada	4,123
Arkansas	11,180	N. Hampshire	1,901
California	65,526	New Jersey	28,028
Colorado	12,547	New Mexico	6,870
Connecticut	7,620	New York	78,001
D. of Columbia	7,189	N. Carolina	13,872
Delaware	3,623	North Dakota	6,601
Florida	16,838	Ohio	72,470
Georgia	22,417	Oklahoma	8,901
Idaho	6,492	Oregon	15,211
Illinois	108,530	Pennsylvania	102,518
Indiana	34,072	Rhode Island	1,487
Iowa	20,112	South Carolina	6,420
Kansas	28,184	South Dakota	2,944
Kentucky	24,519	Tennessee	20,222
Louisiana	13,924	Texas	55,623
Maine	6,051	Utah	9,926
Maryland	17,789	Vermont	2,521
Massachusetts	17,849	Virginia	29,210
Michigan	28,986	Washington	17,877
Minnesota	34,602	W. Virginia	20,014
Mississippi	7,921	Wisconsin	21,251
Missouri	40,732	Wyoming	7,574
Montana	11,386		

44 *Is is true that standard practice on Japanese trains has men and women, total strangers, sharing the same berths?*

Yes, sometimes. Accommodations in sleeping cars are assigned without regard to sex. In keeping with Nipponese hospitality, the management provides a kimono and slippers, soap, and a towel for every first- and second-class passenger who buys sleeping space.

45 *What is the difference between a Shay, a Heisler, and a Climax?*

The main difference between these types of geared locomotives is the position of the cylinders. Ivan Saunders, an authority on the subject, puts it this way:

All three were popular in the lumber business and were available in two or three trucks of four wheels each. Most lumber roads had primitive rights-of-way, with ballast and grading almost unheard of. Track was laid on bare earth, often detouring around large trees or bridges, so the motive power had to be rugged.

The Shay has either two or three cylinders mounted vertically on the right side only. These drive a longitudinal shaft along the wheels and, by means of gearing on the wheel rims, move the engine.

Cylinders on the Climax are mounted, one on each side, at about a 45-degree angle. They drive downward to the rear to a jackshaft wheel, which is attached crosswise to the boiler, and under it. This, in turn, drives a longitidunal shaft under the boiler. It is geared to the axles.

The Heisler, on the other hand, has one cylinder on each side, mounted crosswise to the boiler. These cylinders drive downward to a shaft centered underneath, which moves the nearest axle, the other axle in the truck being driven by means of side rods.

The first Shay was built in the late

Ivan W. Saunders. 216½ Sweetbriar St., Pittsburgh, Pa.

Geared locomotives used in logging: (top) Shay, No. 103, Ewauna Box Co., Sprague River, Ore.; (middle) Heisler, No. 2, West Side Lumber Co., Tuolomne, Calif., and (bottom) Climax No. 10, Hillcrest Lumber Co., Ltd., Lake Cowichan, B. C., Canada.

1870's. The first Climax and the first Heisler came somewhat later. All were the simplest of locomotives, not given to fancy parts; but most of them, being woodburners, had terrific stacks.

The last Shay ever built, as far as we know, was Western Maryland No. 6, built by Lima Locomotive Works in April, 1945. She now reposes in the B&O Museum at Baltimore. We have no records on Heisler or Climax production, but would welcome such data.

46 *Who wrote the song, "I've Been Workin' on the Railroad"?*

The author's name is unknown. The first time this song appeared in print, as far as we can find out, was in 1894, in *Carmina Princetonia,* under the title "Levee Song," as follows:

I've been workin' on the railroad,
All the livelong day;
I've been workin' on the railroad,
Just to pass the time away.
Don't you hear the whistle blowin'?
Rise up so early in the morn.
Don't you hear the captain shoutin'?
Dinah, blow your horn!

47 *What is the standard diameter of American freight-car wheels?*

Thirty-three inches. Placed tread to tread, the wheels of the two million freight cars in service would reach 8,300 miles. Most of them are good for 600,000 miles apiece.

48 *Which railroad first used steam power in regular permanent service?*

The Liverpool & Manchester, in England, Sept. 15, 1830. Next came an American road, the South Carolina (now part of the Southern Railway system), on Christmas Day of 1830.

New type caboose, designed by the Monon for its own use, has cupola bay window and picture windows in the caboose proper, all made of safety glass. Interior is equipped with sponge-rubber upholstered bunks, built-in lockers, ice chest, running water, work table, and convenient storage space. It is electrically lighted; has an oil heater, a permanent radio with cupola antenna, plus walkie-talkie for outdoor use.

RUNNING EXTRA

BOB WHITE, author of "Good-Bye, Gandy Dancers!" (in this issue), 514 N. 5th St., Grand Haven, Mich., says that the lad who posed for the drummer boy in the famous painting, "The Spirit of '76," was the son of General J. H. Devereaux, a railroad executive. Who can tell him, on which railroad?

COMMENTING on item 37 in the April issue, Walter A. Lucas, railroad historian, says: "A joint-trackage agreement was made in 1838, ten years before the date you mentioned, between the Paterson & Hudson River RR. (now Erie), and the N. J. RR. & Transportation Co. (now Pennsy). These lines had joint use of trackage between what is now West End in Jersey City) also known as Marion Station), and the Hudson River, about two miles."

Further information on this earliest known joint trackage agreement may be found in Mr. Lucas' book, *From the Hills to the Hudson,* published 1944.

WHO can give details on the Chemist Ridge RR. to Charles Middleton, 8909 Kensington Parkway, Chevy Chase, Md.? He is under the impression that not too long ago the line ran out of Palmerton, Pa., to the New Jersey Zinc Mines at Kunkletown, Pa., and used Shay locomotives.

V. B. BELL, Rte. 3, Box 273, Tucson, Ariz., wants the words of an old poem, "The King Snipe's Consolation."

DOES anyone know of an existing Forney-type locomotive that ran in Brooklyn or Manhattan? There may be several left in remote parts of the country. Dr. George T. F. Rahilly, 100 S. E. 15th Ave., Ft. Lauderdale, Fla., wants to buy one, regardless of condition, to restore and place in a museum.

WHO can furnish a brief history of the Dayton & Delphos for Jack Wynn, Chesapeake & Ohio conductor, Fort Thomas, Ky.

ACCORDING to G. L. Brown, retired Canadian Pacific engineer, 379 Maple Row, Lancaster, N. B., Canada,

Two young railfans survey the natural grandeur of the upper Mississippi River as one of America's fastest and most beautiful trains, the Burlington's *Twin Zephyr*, passes on its run between Chicago and St. Paul. Note modern observation domes.

item 5 in April *Information Booth* is not exactly correct.

He points out that the oldest railroad bridge in point of continuous service is the Causy Bridge in Durham, England. Actual date of construction is not known but was before 1727. The bridge was at least 100 years old, and in use, when the Whitstable (the line over which its rails passed) was built.

The bridge referred to in our item was built specifically for the Baltimore & Ohio, whereas the English one was used only incidentally to carry trains.

EDWARD TURNIER, Box 52, Five Corners Sta., Jersey City, N. J., seeks data on the Herkimer, Newport & Poland Narrow Gage, which ran from Herkimer to Poland, N. Y., along West Canada Creek, near present Route 28.

WE STATED in Feb. *Information Booth* that no steam locomotives are now in production in the U. S. and none are contemplated. Dwight Miller, Garner, Ia., points out that hundreds of steamers are still being built in this country and Canada but only miniatures varying from ¼-inch scale on up to amusement-park jobs.

A HISTORY of the locomotive *Walter Elliott* is wanted by George Larned, Box 263, Bedford Hills, N. Y.

REV. J. D. WEBB, 347 Purvis Ave., Bermen, Ohio, an oldtime operator, is in search of an office where trains are still run by telegraph. He wants a tape-recording of train orders, OS's, messages and consists, and will send tape to any op who has a recorder or access to one.

"WHO is the youngest railroader in the country, and what is his job?" asks Gary Schulberg, 64-41 79th St., Middle Village, N. Y.

DUDLEY TENNANT, 8 Pierce St., Webster, N. Y., wants a steam locomotive bell. Where can he obtain one?

STUB SWITCHES: Additional information comes from Douglas Wagner, Box 145, East Alton, Ill., who says there is one on a standard-gage line at Norfolk, Neb., in the uptown yards on Norfolk Ave. between 6th and 7th streets, and is used by the C&NW, the UP, and the CStPM&O. It has been in operation for about 35 years.

FRANCIS DONOVAN, 101 Winthrop St., West Medway, Mass., wants facts about a steam road that operated around Big Tree Grove, Calif., in the Santa Cruz Mountains, which might have been the 3-foot gage Santa Cruz RR. What were its terminals and way stations? He will reciprocate with data on New England and Eastern roads.

CORRECTION: In June issue, item 53, a typographical error gave the wrong middle initial of James Jerome Hill. We are sorry.

Thomas Hollyman, Chesapeake & Ohio Ry.

Year by year, the gasoline-powered machines that handle trackwork are growing bigger, while the number of section men is dwindling.

invested in red-eye but I suspect that the latter, if rightly applied, would cut quite a slice off our national debt.

Long before my time, trackmen got over the road with little four-wheeled cars they pushed by hand. If you are familiar with the story of "The Great Locomotive Chase" you know that in 1862 Captain Fuller followed the stolen *General* for part of the way up and down Georgia hills on a push-car.

The gandies of that era were lean and cadaverous. They didn't loaf enough to accumulate fat. Then

GOOD-BYE, GANDY DANCERS!

by Robert E. White

SECTION FOREMAN, GRAND TRUNK RAILWAY

SECTION GANGS are outmoded. I refer to the oldtime muscle boys with whom I toiled in blistering sun and howling gales on twenty-two roads over more years than I care to admit. We were known as gandy dancers. This moniker came from the old Gandy company that built some of the earliest equipment for trackwork and from the odd motion we made while tamping ties.

All you needed in those days to qualify for the job were a strong back, a weak mind, and the endurance of a Texas mule. We were a leather-skinned bunch. Some of us had quit school in the fifth grade. A gandy dancer who could read more than his own name was looked upon with suspicion.

Today, all that's changed. Tracks are manicured by mechanized district crews. You drive gargantuan power machines—and they're getting more and gargantuan by the year. On the Reading, for example, thirty-six "*panzer* divisions" are doing the same work that used to take eighty-eight alcoholic section gangs of the old school. Everywhere you go, brass collars are kissing the gandy dancers good-bye.

I remember when the king snipe, or section boss, would bark, "Let's get goin'!" or "You're holdin' up the gang." Action called for brawn and sweat. But not now. The modern foreman tells his mechanized boys, "Give it the gas!"

Class I railroads in this Land of the Free spend close to ten million bucks a year for gasoline to run their sweat-saving machines. I don't know how that figure compares with the money that the old floating gangs

someone invented cars operated with a pump-handle motion. Those vehicles also used up a lot of energy, and in those days we had no vitamin B complex pills to replace the loss. Finally, motors came along. Gleefully we ditched the old hand-cars.

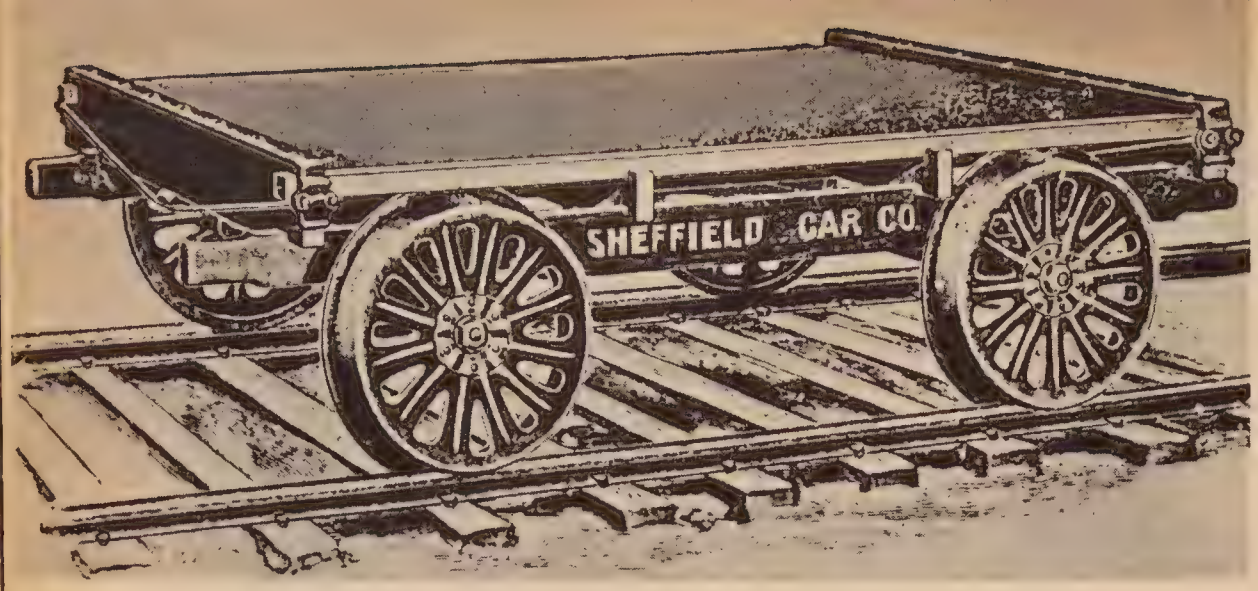
One improvement followed another, until today those of us who are lucky ride around in rail motorcars, relax, and enjoy the scenery. Work is the subject furthest from our minds. Maybe, in time, some genius will find a way to install radio receiving sets on these chariots. While you are on duty you might as well enjoy the latest song hits. Modern factories keep their serfs happy on the job with canned music; why can't railroads do the same?

All of which spells progress. No sooner does a fellow rig up a device to lessen toil than somebody else comes along and improves on it. Many advances spring from the king snipe's desire to keep his stretch of track in better condition than his neighbors', and the company takes a hand by offering prizes for the best azalea beds or what have you.

Like other king snipes, I have felt the backfire of the mechanized age. Before 1928 I drifted around the country too much to acquire respectable seniority on any pike, but in '49 I settled down. That was when the Grand Trunk Western joined the power parade and cut off alternate sections right down the line on the division where I labored, thus bumping every other section boss. But some gandies stayed on with the lengthened sections and I was one of them.

Machines stepped in and took up the slack. One track-patrol man on a grown-up motor could handle the

Efficient iron monsters, such as this Jordan Grader-Spreader that the Monon is using, speed progress along the right-of-way, pare down the cost of labor, and help to create super-railroads.



Early stages in the transportation of trackmen. (Above) Push-car and hand-car. (Below) Ford tin lizzie used as section car on Grand Trunk Western in 1937.

inspection work for an entire section. He filled the switch lamps, replaced broken bolts, cleaned off crossings, and did all the other odd chores that the whole section crew had been doing.

Of course, I was only kidding when I made that crack about easy life on a motor. Whatever loafing there had been in the old days vanished when the *putt-putt* car began taking the gang to the rock pile at fairly rapid speed, giving us more time for the steady grind of surfacing track and renewing ties. The speed-wagon never was a toy. It travels so fast that two of my kingsnipe friends, Christ Nettas and Al Hutchinson, were killed by rail motor accidents.

Nowadays, even the speed-wagon is too slow for modern pressure and is delayed too often by trains, so you travel by truck on the macadamized highway from one job to another. The idea is to get you actually working as quickly as possible and for as long a time as possible. But that idea is not exactly new.

A neighbor of mine here at Grand Haven, Michigan, Bill Dempsey of the Chesapeake & Ohio, is responsible for 30 miles of track laid with 112-pound rail. Bill just puts his snipes on a truck, and out to the job they go. If, after arrival, he finds they need some ties or material, he sends a couple of men back with the truck to get them. No time is lost in waiting for a chugging motorcar to get out of the way of freight or passenger trains.

Before mechanization came, a 30-mile stretch might have been split up into four sections, each with a foreman and three laborers.

That saying, "They make spare parts for machines but not for men," didn't apply to gandy dancers. In the old days there would be one gang working, a second gang coming, and a third gang going. The gang en route to the job was the slave-driver's spare parts.

Around 1920, when I was a restless young squirt, I suddenly grew tired of smashing baggage in Grand Central at New York City and took

a ballast job on the Jersey Central at Dunellen, New Jersey. It was a "rock" job, with the brutal muscle-powered tamping picks. Ten hours a day we bent over the pebbles, pounding and pounding. Our section boss supplied the lung muscle designed to keep us at work. Luckily for me, a train was wrecked at Plainfield. I helped to clean up the mess, which broke up the monotony.

Later, I worked on electrical tampers. These fat-reducers, each weighing about eighty pounds, hooked to portable generators, can keep six or eight gandies dancing at once. Still later, one mechanized gent on his self-propelled tamper could make any of the old gangs look as if they were standing still. And the end is not yet. It never will be. As long as flanged wheels run on steel rails, new improvements will be made on track machines.

Consider the Long Island Rail Road. A year ago they leased a Pullman-standard ballast tamper for tests. Previous tests had shown that other ballasters did not work well in third-rail territory. It was easy enough to modify the P-S machine to work around third rail, but a new problem arose, the kind of problem we don't have here in Michigan. The tamper did not do a good job on the Long Island because it skipped long stretches of guard-rail on elevated routes, leaving them for arduous hand-tamping.

But ingenuity won out. Working from ideas supplied by LIRR track engineers, Pullman-standard altered its machine so that the tamping head would be shifted to work around guard-rails. This added to the flexibility.

Well, the revamped machine was tried out on the Long Island and it worked fine—in third-rail areas and with dingle or double guard rails. Result: a smooth level track that no hand labor could duplicate. Pullman-Standard then adapted the new basic design to its regular models. The first of these was promptly sold to the New York City Transit Authority, which is now operating it within tight curve and clearance restrictions on municipal subway-el tracks.

One afternoon in about 1923, while I was tamping for the Pennsy at Cleveland, our slave-driver yelled, over here!" Well, I dragged my last "One man to a tie and get them tie halfway over the high iron and dropped it. The boss shouted: "I don't want it *there*. Bring it over here!"

It was a hot, dusty day and I was fed up. "Come and get it!" I called back. "This is as far as I go." Then I headed for Chicago.

Anybody who wants my share of the "good old days" can have it. I'll take the machines. Nowadays, when some fiend yelps for more speed, the mechanized section worker just steps on the gas. No sweating. No muscular paralysis. No ten-hour day. You sit on your rear end and pull a lever for forty hours a week. Then you collect that portion of your wages which Uncle Sam does not grab for income taxes to build highways in Afghanistan and safety-pin factories throughout Saudi Arabia.

My memory goes back to that time in 1924 when I shipped out from Canal and Madison streets, Chicago, to a Wabash job near East St. Louis. They were reballasting the line and removing the old ballast with steam shovels. Actually, the company furnished the steam shovels while we poor devils burned up enough energy to level a mountain.

Each morning the boss of the extra gang would mark at the rail-base what he considered a day's work for two men to shovel out—usually two or three rail-lengths. The standard rail-length was then 30 feet. (In 1925 it became 33 feet and is now 39, which means that it grew with the mechanization of trackwork.) Anyhow, I began my third day on the Wabash with an aching back. I looked at one end of the boss's mark but never did find the other end, for I did not stop walking until I reached East St. Louis, several miles distant.

IT'S SUPER, SUPER... I'LL AGREE!
AND THANKS FOR ASKING BUT, YOU SEE...
SMELLS GRAND! PACKS RIGHT! SMOKES SWEET! CAN'T BITE!
A PIPE SMOKING MAN ALWAYS WINS WITH ME!
IT'S SIR WALTER RALEIGH— NATURALLY!
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"RULE OTHERS WITH Thoughts." (Details—3c.) Wisdom, 846-C9 Sunnyside, Chicago 40.

ADULTS, "INTERESTING MAILS"—25c keeps your mailbox full three months. Bentz, (Desk-R-96), Chatawa, Miss.

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EARN EXTRA MONEY Selling Advertising Book Matches. Free Sample kit furnished. Matchcorp, Dept. GH-10, Chicago 32, Illinois.

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PSORIASIS TABLET DISCOVERY—New, fast, effective, safe; no greasy bandages. Trial offer $1.00 (refundable) Tropisan, 2632 East 75th, Chicago.

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WANT YOUR BOOK published? Free booklet 56. Vantage, 120 W. 31, N.Y.

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BORROW $50 TO $500. Employed men and women, over 25, eligible. Confidential—no co-signers—no inquiries of employers or friends. Repay in monthly payments to fit your income. Supervised by State of Nebraska. Loan application sent free in plain envelope. Give occupation. American Loan Plan, City National Bldg., Dept. BC-8, Omaha, Nebraska.

BORROW BY MAIL. $100-$600. Anywhere. Air Mail Service. Postal Finance, 200 Keeline Building, Dept. 663-P, Omaha 2, Nebraska.

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$200. MONTHLY POSSIBLE, Sewing Babywear! No house selling! Send stamped, addressed envelope. Babygay, Warsaw 13, Indiana.

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ANNOUNCER PUBLISHES "RADIO-TV Announcing Made Easy". Order Today, Just $2.98. Permian, Box 551, Youngstown, Ohio.

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LEARN CIVIL AND Criminal Investigation at home. Earn steady, good pay. Inst. Applied Science, 1920 Sunnyside, Dept. 13C, Chicago 40, Ill.

BOOKS & PERIODICALS

FREE ILLUSTRATED HYPNOTISM Catalogue. Write: Hypnotist, 8721 Sunset, Hollywood 46W, California.

MAGIC TRICKS—JOKES—NOVELTIES

FREE CATALOG—MAGIC Jokes—Novelties—Houdini Handcuff Escapes—Write Heaney the Great, Oshkosh, Wisc.

A mechanized track crew with a cribbing machine can do twice as much work in half the time and with only half as many men and less effort. The same applies to other modern machines. That is why the brass collars are bidding the gandy dancers good-bye.

No oldtime gang could keep up with a much smaller *panzer* division. On the other hand, today's section men wouldn't last long if they were assigned to the kind of labor that their predecessors used to perform, yet the mechanized boys with their monkey motions do a helluva lot more in one day than a much larger gang of sweating oldtimers without machines could accomplish in a week.

Track-machine operators is the new term for section hands. The Track Department puts the jobs up for bids, and the guy with the most whiskers (seniority) gets his pick. But don't be fooled by pictures. For example, that full-page C&O photo in last December's *Railroad Magazine* showed a machine removing the old ties and installing new ties, with only one man in sight. That, I would say, was merely a posed photo designed to impress people with the idea that one man with a steel monster was carrying on alone, whereas even a big machine needs the services of a small gang to produce results.

Back in 1937 I was one of three king snipes, each with three men, handling a 21-mile section on the old Grand Trunk Western. Our method of weeding, discing, and cutting sod was too slow, so Foreman Andy Truscock fitted an ancient Ford car with flanged wheels and we ran her over the line, with all three gangs working at the job, and completed the section in two days. Today, a two-man mechanized crew doing this work covers the entire *subdivision* in *one* day.

No gandy dancer loved the old "armstrong" hand drill. This one, with two men on the handles laboriously cranking and sweating, took five minutes to bore the first hole. The second hole required six minutes, and so on, each being more difficult than the preceding hole. Today, under mechanization, one man can drill any number of holes in two minutes apiece, without sweating.

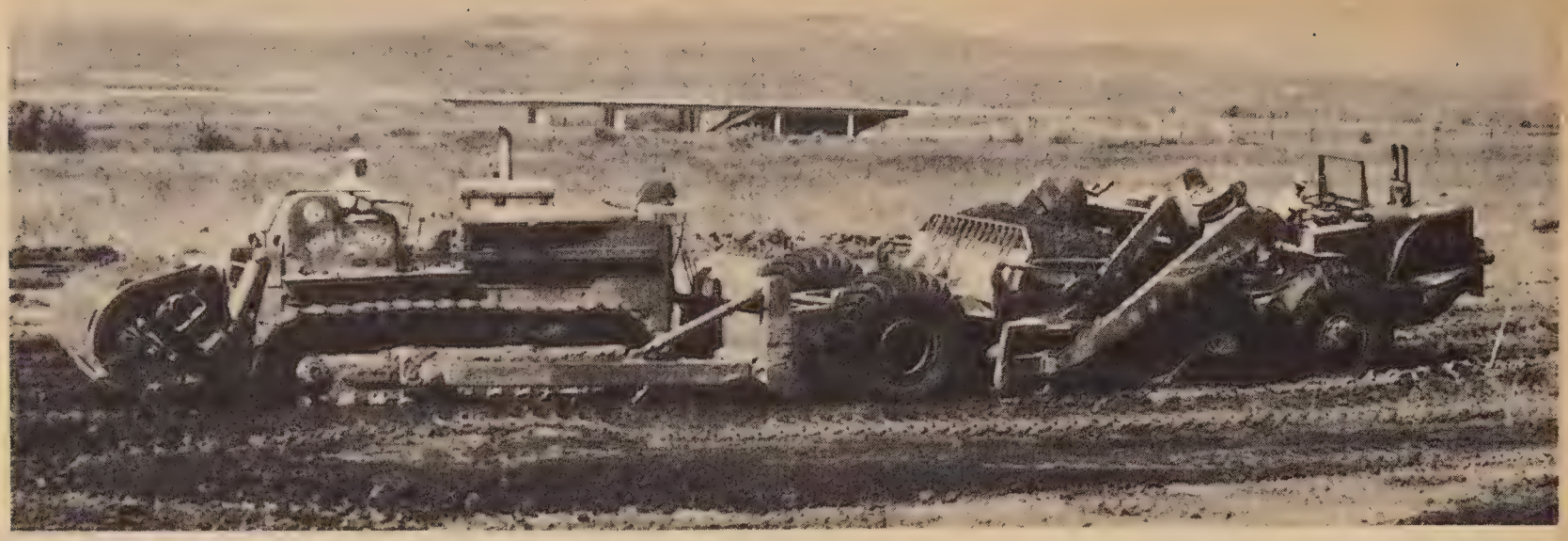
Pushing on the handle of a ten-pound spike maul for ten hours a day made you eat like a horse and drink like a fish. But we never had to worry about reducing. The spike maul took care of that. Of course, spiking has eased up quite a bit since they took the air-hammers away from breaking concrete and hosed them to us.

"Shaving" the right-of-way is another task the mechanized crew has taken over. In most places the old hand scythe, with occasional bumble-bees to keep you alert, can be hung on the fence. I never minded the bees or the sweat but I couldn't quite fancy what happened when one of us would hit a yellowjackets' nest and the whole gang got plenty of fast action.

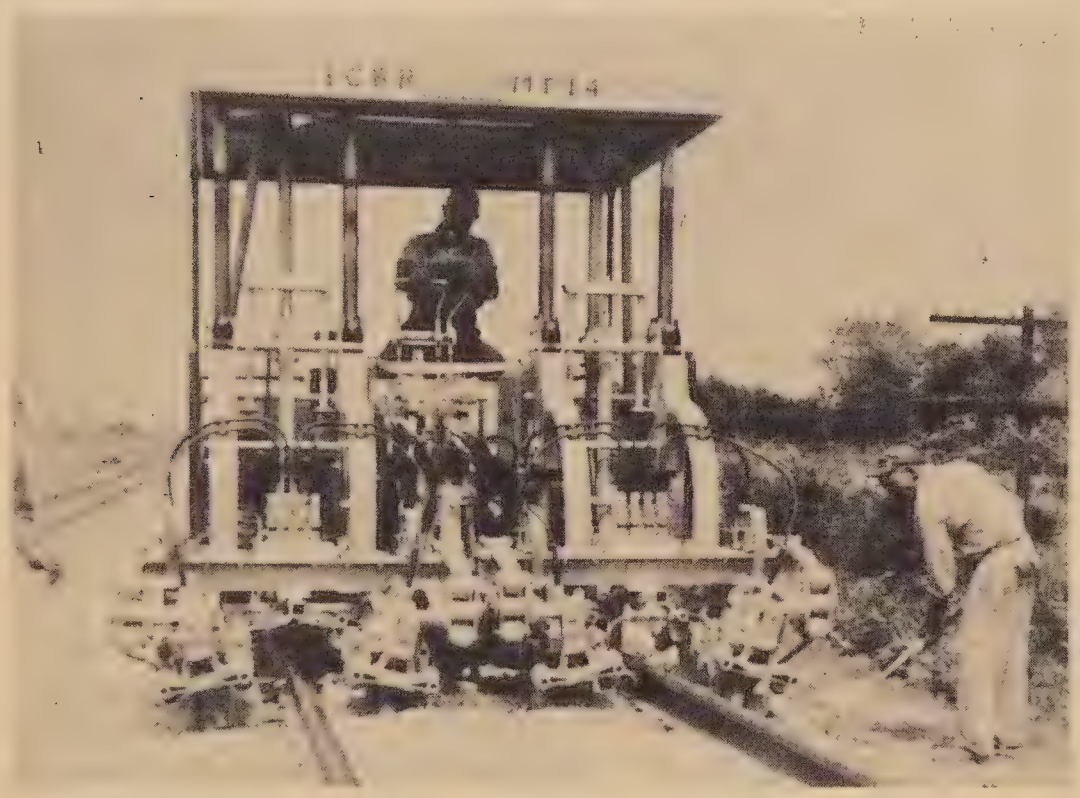
Another thing, why should a track foreman have one man on a sledge and one on a chisel to cut a rail when a single fellow with a rail-saw can do a faster, safer, and better job?

There is room on the railroad for more machines but fewer gandy dancers. Oiling the splice-bars, angle-bars, straps, etc., is still too slow. First the gandies took a bucket of road oil and a four-inch brush to "paint" them by hand. Then they improved this by putting a broom handle on the short brush to do away with bending over at each joint.

Even so, it was too slow; so one road took a couple of "apple orchard" spray cans, pumped up the air, and used them. These cans

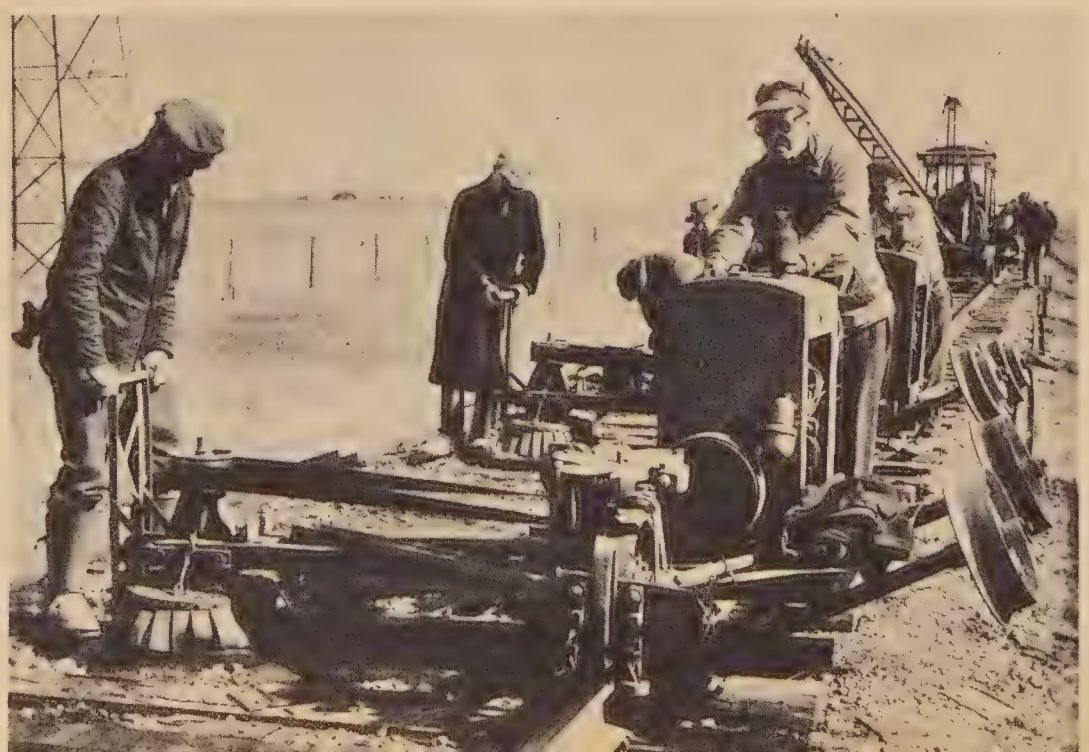


More diversified than bulldozers, these "55" Payscrapers, built by International Harvester Company, are used for reducing grades, daylighting curves, loading ballast, handling ties, and many various other kinds of off-track duties along the line.



Jackson Track Maintainer does tamping jobs with uniformity, speed and economy.

Adzing machines, like this one on the Milwaukee Road, level top surface of ties.



plugged up and caused too many rest periods, so they got a machine. The spray machine now is placed on a push-car and is shoved along slowly by the motor-car. The machine heats the oil while two men, each with a hose, walks along spraying the joints.

I see the Sperry Rail Service, when testing for hidden defects in rail, shoot a paint spray at every joint while traveling about six miles an hour. That is faster then the section men can walk, so why not spray oil instead of paint, and take off the two men?

But gandy dancers aren't the only ones to feel the pressure of the Machine Age. Since 1945 America's railroads have poured about twelve billion dollars into new locomotives, trains, track equipment, and the like. This has boosted industrial efficiency to such an extent that the roads are now carrying on with nearly 40 percent fewer employes. One Midwestern railroad president is quoted as saying, "We could operate our whole system automatically right now if it weren't for Federal controls and union labor problems."

Father Time and the machines are reducing still further the number of trackmen. But despite all the goodbyes, no form of robot operation could do away with them entirely. The gandy dancer, who came in with the railroads, will assuredly be around, in one form or another, until the last flag is whistled in. ●

Although the Pennsy did more than any other system to develop the steam engine, it now relies mostly on diesel-electrics. This Alco-GE road switcher, Class AS-16ms, rests under a Pittsburgh coal and sand tower and water plug. Twenty locomotives in her class handle Pittsburgh commuters. The rest are assigned to: *Northern Region:* Erie 4, Olean 1; *Lake:* Cleveland 2, Toledo 1; *Northwestern:* Chicago 2; *New York:* West Morrisville 1; and *Chesapeake:* Baltimore 2, Wilmington 6.

PENNSYLVANIA ROSTER NOTES AND ABBREVIATIONS

This complete roster, dated Jan. 1, 1957, was prepared by Sy Reich, our Railroad Hobby Club editor, with the cooperation of superintendents of equipment of the PRR, the GM-EMD, the Eddyston Division of BLH, and the Railroad Division of Fairbanks, Morse & Co.

In the Railroad Class of diesels the first letter designates the builder: A— Alco-GE and Alco Products; B—Baldwin, BW, BLHW; F—FM; G—GE; L—LH; E—GM-EMD and GM-EMC. (But A-6b is a steam classification.)

The second letter designates service: S—shunter (both yard and road switchers); F—freight; P—passenger; H—helper; FP—freight and passenger; PS—passenger road switcher (used only in 1956 and since).

The number designates horsepower to near hundred. Letter s following the number indicates steam heat; m indicates MU, a difference in class.

As for steam and electric power (except E-2 and E-3), letter indicates wheel arrangement: (A) 0-4-0, (B) 0-6-0, (C) 0-8-0, (D) 4-4-0, (E) 4-4-2, (F) 2-6-0, (G) 4-6-0, (H) 2-8-0, (I) 2-10-0, (J) 2-10-4, (K) 4-6-2, (L) 2-8-2, (M) 4-8-2, (N) 2-10-2, (O) 4-4-4, (P) 4-6-4, (Q) 4-6-4-4, or 4-4-6-4, (R) 4-8-4, (S) 6-4-4-6 or 6-8-6, (T) 4-4-4-4, (AA) 0-4-4-0, (CC) 0-8-8-0, (DD) 4-4-4-4, (FF) 2-6-6-2, (GG) 4-6-6-4, (HC) 2-8-8-0.

Numbers denote sub-classes. Letters following numbers still further subdivides them. "Mod." means modified. Road number is the number painted on the locomotive and/or which appear on the number plate. Engine weight and tractive effort are in pounds.

Builders are abbreviated thus; PRR, Pennsylvania; W or WH, Westinghouse; Alco, American Locomotive Co.; Alco Pr., Alco Products; GE, General Electric; B. or Bald., Baldwin Locomotive Co.; BLHW, Baldwin-Lima-Hamilton- Westinghouse; LH, Lima-Hamilton; GM-EMD, General Motors Corp., Electro-Motive Division; GM-EMC, General Motors, Electro-Motive Corp.; FM, Fairbanks-Morse; GE, General Electric; BW, Baldwin-Westinghouse.

Boiler pressure is given in pounds per square inch, cylinder dimensions in inches. * means even numbers only. FC, fabricated cylinders. FWH, feedwater heater, OF, oil-fired. SF, stoker-fired. The five photos on pages 55 and 57 were made by Sy Reich.

The Pennsy's Diesel-Electric Locomotives

Railroad Class	Road Numbers	HP	Builder	Builder's Model	Wheel Arrngt.	Tr. Ef.	Engine Weight	Built
A-6b	3907	450	PRR-W	None	B	32,500	130,000	1930
AS-6	5661-5670 5954-5956 8873-8885 9100-9103 9237-9246	660	Alco-GE	S-1	B-B	49,975	199,900	1946-'51
AS-10	5641-5660 5926-5931 8430-8434 8487-8489 8886-8899 8900-8901 9105-9109 9204,9278- 9287	1000	Alco-GE	S-2	B-B	58,525	234,100	1948-'54
AS-10am	5619-5640	1000	Alco-GE	S-2	B-B	60,600	242,400	1950

AS-10ams	8485,8486	1000	Alco-GE	RS-1	B-B	61,500	246,000	1952
AS-10as	8857,8858	1000	Alco-GE	RS-1	B-B	61,000	244,000	1951
AS-10m	8490-8499	1000	Alco-GE	S-2	B-B	58,525	234,100	1952
AS-10s	5906	1000	Alco-GE	RS-1	B-B	62,425	249,700	1948
AS-16	8914	1600	Alco-GE	RS-3	B-B	62,150	248,600	1951
AS-16a	8446-8451	1600	Alco-GE	RSD-4	C-C	90,000	360,000	1952-'53
AS-16m	8435-8442 8452-8470 8590-8599 8600-8605 8817-8836 8902,8904 8906-8909	1600	Alco-GE	RS-3	B-B	62,150	248,600	1951-'54
AS-16ms	8443-8445 8471-8484 8837-8856 8903,8905 8910-8913 8915,8916	1600	Alco-GE	RS-3	B-B	64,900	259,600	1951-'54
AS-18m	8617-8625	1800	Alco Pr.	RS-11 (DL-600)	B-B	65,000	260,000	1956
AS-24m	8611-8616	2400	Alco Pr.	RSD-15 (DL-600)	C-C	83,750	335,000	1956
BS-6	5907-5909 5932-5937 5941-5943	660	BW	DS 4-4-6	B-B	49,400	197,600	1942-'45
BS-6a	5957-5966 9000-9049 9110-9121 9210-9236	660	BW	DS 4-4-6	B-B	49,000	196,000	1948-'49
BS-7	5596,5598 5599,5600- 5618,8994- 8999	750	BW	DS 4-4-7.5	B-B	49,400	197,600	1950-'51
BS-7m	5595,5597	750	BW	DS 4-4-7.5	B-B	49,400	197,600	1950
BS-10	5913-5920	1000	BW	DS 4-4-1000	B-B	60,000	240,000	1943-'45
BS-10a	5550-5590 5967-5977 9050-9079 9122-9136 9177-9179 9251-9257 9262-9275	1000	BW	DS 4-4-1000	B-B	57,125	228,500	1948-'50
BS-10am	5978,5979 9180-9183 9258-9261 9429-9434	1000	BW	DS 4-4-1000	B-B	57,125	228,500	1948-'50
BS-10as	5591-5594 9276,9277	1000	BW	DRS 4-4-1000	B-B	60,150	240,600	1949-'50
BS-12	8100-8104 8753-8764 8777-8796 8976-8993	1200	BLHW	S-12	B-B	57,000	228,000	1951-'54
BS-12am	8105-8109	1200	BLHW	RS-12	B-B	58,300	233,200	1951-'54
BS-12m	8732-8752 8765-8775	1200	BLHW	DS 4-4-1200	B-B	60,000	240,000	1952
BS-12ams	8110,8776	1200	BLHW	RS-12	B-B	60,750	243,000	1952-'54
BS-12as	8975	1200	BLHW	DRS 4-4-1200	B-B	60,750	243,000	1951
BS-16m	8111,8112 8966-8969 8972-8974	1600	BLHW	AS-616	C-C	82,750	331,000	1951-'54
BS-16ms	8970,8971	1600	BLHW	DRS 6-6-1600	C-C	84,900	339,600	1951
BS-24	8952,8953	2400	BLHW	DT 6-6-2400	C-C	89,750	359,000	1951
BS-24m	8113,8724- 8731,8954- 8965	2400	BLHW	DT 6-6-2400	C-C	89,750	359,000	1951-'54
ES-6	5910,5911 5944-5953 5987-5999 9104,9137- 9154,9200- 9203,9205- 9209,9396- 9399,9400- 9428	600	GM-EMD & GM-EMC	SW-1	B-B	48,500	194,000	1937-'50
ES-10	5912,5921- 5925,9155- 9176,9247- 9250	1000	GM-EMD	NW-2	B-B	62,100	248,400	1941-'48
ES-12	8542-8544 8859-8868 8872,9364- 9368,9373- 9395	1200	GM-EMD	SW-7	B-B	61,650	246,600	1950-'53

One of five APS-24ms passenger locos Alco built Dec. '55-Jan. '56.

Disc above the headlight on 8813 is radio-phone transmitting antenna.

Fairbanks-Morse built No. 9451, Class FF-15, now in Pittsburgh Region.

Freighter-hauler on the ready track at Pennsy engine terminal, Pittsburgh.

MEN PAST 40

Afflicted With Getting Up Nights, Pains in Back, Hips, Legs, Nervousness, Tiredness.

If you are a victim of the above symptoms, the trouble may be due to Glandular Dysfunction. A constitutional Disease for which it is futile for sufferers to try to treat themselves at home. Medicines that give temporary relief will not remove the cause of your trouble.

To men of middle age or past this type of dysfunction occurs frequently. It is accompanied by loss of physical vigor, graying of hair, forgetfulness and often increase in weight. Neglect of such dysfunction causes men to grow old before their time—premature senility and possibly incurable conditions.

Most men, if treatment is taken before malignancy has developed, can be successfully NON-SURGICALLY treated for Glandular Dysfunction. If the condition is aggravated by lack of treatment, surgery may be the only chance.

NON-SURGICAL TREATMENTS

The NON-SURGICAL treatments afforded at the Excelsior Institute are the result of 20 years research by scientific Technologists and Competent Doctors.

The War brought many new techniques and drugs. These added to the research already accomplished has produced a new type of treatment that is proving of great benefit to man as he advances in years.

The Excelsior Institute is devoted particularly to the treatment of diseases of men of advancing years. Men from all walks of life and from over 3,000 cities and towns have been successfully treated. They found soothing and comforting relief and new health in life.

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Are often associated with Glandular Dysfunction. We can treat these for you at the same time.

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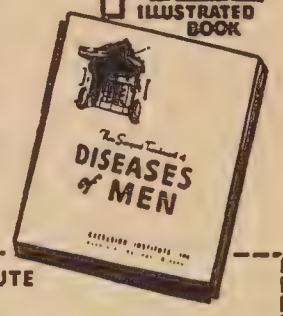
The Excelsior Institute has published a New FREE Book that deals with diseases peculiar to men. It could prove of utmost importance to your future life. Write today. No obligation.



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ES-12m	8513-8541 8869-8871 9358-9363 9369-9372	1200	GM-EMD	SW-9	B-B	61,650	246,600	1950-'53
ES-15a	8588,8589	1500	GM-EMD	SD-7	C-C	90,000	360,000	1953
ES-15m	8502-8512 8545-8550 8554-8582 8797-8799 8800-8806	1500	GM-EMD	GP-7	B-B	61,400	245,600	1952-'53
ES-15ms	8500,8501 8551-8553 8583-8587	1500	GM-EMD	GP-7	B-B	62,250	249,000	1952-'53
FS-10	5980-5986 9080-9099 9184-9199 9288-9299	1000	FM	H-10-44	B-B	60,500	242,000	1948-'49
FS-12	8709-8710	1200	FM	H-12-44	B-B	61,700	246,800	1954
FS-12m	8711-8723	1200	FM	H-12-44	B-B	62,250	249,000	1952
FS-16m	8807-8816	1600	FM	H-16-44	B-B	64,000	256,000	1952
FS-20	9300-9304 9307-9309	2000	FM	H-20-44	B-B	63,560	254,000	1948-'49
FS-20m	8917-8942 9305,9306 9310,9311	2000	FM	H-20-44	B-B	63,500	254,000	1948-'51
FS-24m	8699-8707	2400	FM	H-24-66	C-C	93,750	375,000	1956
GS-4	9313,9314 9316-9321 9323-9328 9330-9334, 9337-9338 9340-9357	380 & 400	GE	44 ton	B-B	22,137	88,550	1947-'50
GS-4m	9312,9315 9322,9329 9335,9336 9339	380 & 400	GE	44 ton	B-B	22,137	88,550	1947-'50
LS-25	5671-5683	2500	LH	None	C-C	90,500	362,000	1950-'51
LS-25m	8943-8951	2500	LH	None	C-C	90,500	362,000	1951
AF-15	9600A-9607A 9600B-9607B	1500	Alco-GE	A: FPA-1 B: FPB-1	B-B B-B	61,150 58,500	239,600 235,200	1948 1948
AF-16	9608A-9631A 9608B-9630B*	1600	Alco-GE	A: FPA-2 B: FPB-2	B-B B-B	61,600 61,300	246,400 245,200	1951 1951
BF-15	9568A-9593A 9568B-9593B	1500	BW	DR 4-4-1500	B-B	A:66,500 B:64,250	266,000 257,000	1949 1949
BF-15a	9700A-9707A 9700B-9707B	1500	BW	DR 4-4-1500	B-B	A:64,450 B:62,600	257,800 250,400	1950 1950
BF-16	2000A-2027A 9594A-9599A 9708A-9745A 2000B-2026B* 9594B-9598B* 9708B-9714B* 9728B-9744B*	1600	BLHW	DR 4-4-1600	B-B	A:64,450 B:62,600	257,800 250,400	1951-'52 1951-'52
BF-16z	5784A-5787A 5780B-5786B*	1600	BW	DR 4-4-1600	A1A-A1A	B:62,500 A:64,300	374,500 387,100	1948 1948
BH-50 ex BP-60a ex BP-1	5811-5834	2500	BW	DR 12-8-3000	2-D-D-2	102,250	593,710	1947-'48
EF-15 ex EF-4	9500A-9517A 9520A-9541A 9556A-9561A 9563A-9567A 9677A-9679A 9500B-9517B 9520B-9527B 9530B-9536B* 9504B	1500	GM-EMD	F-3	B-B	A:59,500 B:56,750	238,000 227,000	1947-'49 1947-'49
EF-15a	9519A,9640A- 9651A,9656A- 9676A,9764A- 9799A,9800A- 9831A,9872A- 9879A,9640B- 9648B,9650B, 9656B-9660B* 9666B-9676B 9764B-9798B* 9800B-9818B* 9872B-9878B*	1500	GM-EMD	F-7	B-B	A:58,500 B:57,650	234,000 230,600	1949-'52 1949-'52
EFP-16	9832A-9871A 9832B-9858B*	1500	GM-EMD	A: FP-7 B: F-7B	B-B B-B	65,000 61,750	260,000 247,000	1952 1952
EH-15	9518A,9542A- 9555A,9652A- 9655A,9680A- 9699A,9518B 9519B,9528B 9541B-9555B 9625B,9654B	1500	GM-EMD	F-3	B-B	A:59,500 B:58,700	238,000 234,800	1947-'50 1947-'50
EFS-17m	7000-7104	1750	GM-EMD	GP-9	B-B	60,000	240,000	1955-'56

MISCELLANEOUS STEAM ENGINES

CAMELBACK No. 2282, Southern Pacific Class T-27, pictured in June issue, was built by Baldwin in 1900 for the Sonora of Mexico. She ran on that road as No. 18 before going to the SP, reports Warren D. Stowman, 2011 W. Godfrey Ave., Philadelphia, Pa.

Cylinders, 19x26; drivers, 63; weight on drivers, 96,800; total weight, 137,700; boiler pressure, 200; tractive force, about 30,000. Rebuilt in 1906 with a Class T-1 boiler, she was scrapped in 1928. No other Camelback ever ran near the Pacific Ocean, but the Union Pacific had a few Camelbacks (Baldwin 2-8-0's, Rogers 4-4-0's), which also were rebuilt long before they were junked.

H. F. Kelso and Mr. Stowman are writing an article on Camelbacks for the October issue of Railroad Magazine. We have enough conventional shots of Camelbacks but seek unusual pix such as cab interior, overhead view, Camelback being serviced, rare type of Camelback, etc., to use as illustrations. We need them immediately.

Southern Ry. engine No. 7002, which survived "The Wreck of Old 97," was built by Baldwin in 1903, builder's No. 22633, cylinders 21x28, drivers 68, steam pressure 200, tractive power 30,870, grate area 44, heating surface 2,643, weight of engine 166,060, weight on drivers 124,420, weight of tender 108,300, tender capacity 5,000 gallons, reports Thomas O. Acree, retired Southern train dispatcher, P. O. Box 724, Hollywood 28, Calif.

"If you want data on any other Southern engine of 1903-'19 period," he adds, "let me know."

Burlington steamer No. 6327, pictured in June issue, page 79, is a 2-10-4, not a 4-8-4 as our caption stated, we learn from Thomas G. Morad, Jr., and Elliott Kahn.

"Carload Andy" Ospring, retired hogger, 1322 N. Ontario St., Burbank, Calif., wants to buy a photo of St. Louis, Vandalia & Terre Haute engine 191, 192, or 193.

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FF-16	9448A-9455A 9492A-9499A 9448B-9454B* 9492B-9498B*	1600	FM	CF-16-4	B-B	A:64,500 B:63,500	258,000 254,000	1950 1950
FF-20 ex FP-20 FP-20a FF-3	9456A-9491A 9456B-9478B*	2000	FM	Erie Built	AIA-AIA	A:61,430 B:61,285	355,160 354,100	1947-'48 1947-'48
AFP-20 ex AP-3	5750A-5759A 5750B-5758B*	2000	Alco-GE		AIA-AIA	A:52,025 B:51,150	312,200 306,900	1947 1947
APS-24ms	8606-8610	2400	Alco Pr.	RSD-15 (DL-600)	C-C	97,500	390,000	1955-'56
BP-20	5770A-5783A 5770B-5778B*	2000	BW	DR 6-4-2000	AIA-AIA	A:64,300 B:62,500	387,100 374,500	1948 1948
EP-20	5840A-5883A 5900A-5901A 5840B-5864B* 5900B	2000	GM-EMD	E-7	AIA-AIA	A:53,850 B:51,575	319,600 306,100	1945-'49 1945-'49
EP-22	5700A-5716A 5760A-5769A 5788A-5799A 5801A-5810A 5835A-5839A 5884A-5899A 5902A-5905A	2250	GM-EMD	E-8	AIA-AIA	56,500	335,000	1951-'52

Pennsylvania locomotives leased to other roads (included in roster above)

GS-4	9326-9328 9337	Pennsylvania-Reading Seashore Lines
GS-4	9313,9318	Wabash Railroad
B-6sb	6380	Union Transportation Co. of New Jersey

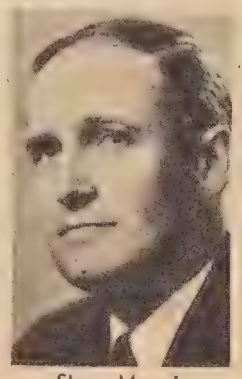
Locomotives rented by the Pennsylvania from other roads

EP-12	1000	1200	GM-EMD	GM-1	B-1	Leased from GM-EMD
AS-10s	46	1000	Alco-GE	RS-1	B-B	Leased from Washington Terminal
ES-15m	69,73,74	1500	GM-EMD	GP-7	B-B	Leased from Bangor & Aroostock
ES-17m	76-80	1750	GM-EMD	GP-9	B-B	Leased from Bangor & Aroostock
AS-15	608,611	1500	Alco-GE	RS-2	B-B	Leased from Union Railroad
EF-15a	1166,1166A 1168,1168A 1169,1169A 1165,1165A	1500	GM-EMD	F-7	B-B	Leased from Wabash Railroad
AS-15m	4041,4042, 4044,4046- 4048	1500	Alco-GE	RS-2	B-B	Leased from Delaware & Hudson
ES-15m	965,966,970	1500	GM-EMD	GP-7	B-B	Leased from Detroit, Toledo & Ironton
BS-16m	40	1600	BW	AS-616	C-C	Leased from Pittsburgh & West Virginia
T-1	2107,2111- 2115,2117 2119,2128	4-8-4				Leased from Reading

TRANSIT TOPICS

by Steve Maguire

GOOD NEWS from the Isle of Man! The Legislature there has decided to continue operation of the popular Manx Electric Railway, although for some time its finances have been somewhat in the red.



Steve Maguire

Realizing the tourist attraction of this line that runs along the picturesque coast of the Irish Sea from Douglas to Laxey and Ramsey, the Manx government voted to buy it. Included in the purchase is the Snaefell Mountain Ry., another electric that climbs a steep grade to the mountain top for a grand panoramic view of England, Scotland, and Ireland. Rail on these two lines will be renewed and four new cars will be bought for base service, replacing some old equipment that has been running for more than half a century.

If Asbury Park's proposed monorail line is built, it would look like this. An artist painted his conception on a photograph of the city's famous boardwalk.

MONORAIL. The mayor and City Council of Asbury Park, N. J., are considering the possibility of building an overhead monorail transportation system over the boardwalk and part of its business area. Plans were submitted by Herbert Crover, of Asbury Park, president of the Monorail Corp. of New Jersey.

The proposal calls for a single rail 20 feet above traffic, with cars capable of carrying 69 passengers each, designed to run singly or in units of two or more. The city would receive 5 percent of all gross fares, with 7 percent of all gross fares after the first $150,000 of income.

As we go to press, the city has not yet reached a decision. Your *Transit Topics* editor, who lives near Asbury Park, is waiting hopefully for this decision.

On a recent visit to Florida we watched the building of a new monorail line in Hypogluxo as an amusement attraction for the James Melton *Autorama,* a museum housing a big collection of antique automobiles. The monorail is similar to that built at Houston, Texas, and the one contemplated for Asbury Park.

NEW YORK STATE'S last trolley (photo in June issue) carried 125 persons, including your *Transit Topics* editor, across Queensboro Bridge in New York City on April 7th and bowed to buses at the end of its 10-minute run, 12:42 a.m. That closed the city's electric-car service, a service which began in 1887 on the Jamaica & Brooklyn route. The bridge line dated back to 1909, three years after the birth of *Railroad Magazine,* and used yellow and orange cars. It had dwindled to 1.6 miles before the final curtain.

PHILADELPHIA'S 12-mile streetcar route is *not* North America's longest, despite Bob Parker's claim (June issue). Listen to James Mullen, 788 Charing Cross Rd., Baltimore, Md.: "Baltimore Transit is down to three lines, but one of them, No. 8, covers 16.2 miles each way from Towson, Md., through the heart of Baltimore, to Catonville Jct., Md."

PHOTO of LVT car running alongside a Reading passenger train (June issue) came from Lester K. Wismer, Souderton, Pa.

"WHERE can we get a retired caboose?" asks Edw. H. Blossom, secre-

tary of operating trolley museum, Branford Electric Ry. Ass'n, Short Beach P.O., Conn., "We need one, by purchase or gift, to move to our property and convetr into headquarters. Will someone who knows of an available caboose please notify us?"

Two beautiful colored postcards, one of an open trolley, with passengers aboard, on a bridge, the other a luxurious private car inerior, are on sale, 5 cents each, at Branford Trolley Museum news-stand at Short Beach. They are the first of 5 planned views. If you order by mail, enclose self-addressed stamped envelope.

BRAZIL has quite a number of trolley lines still in operation, reports Bill Janssen, a Chicagoan active in the CERA, who has just returned from a South American trip. He says that Rio de Janeiro's popular city system is the Brazilian Traction Co. Another company, the C.F.C. Carioca, operates a streetcar line between sea level and an electric cog railway that climbs 2000 feet to the famous statue of Christ that overlooks the big city.

Also in the Rio area are lines on Governor's Island and at Niterol. Sao Paulo has a large transit system with a variety of cars, ranging from steel trolleys that used to run on New York's Third Avenue Ry. to wooden, single-truss, open cars.

At Porto Allegro our correspondent found a large trolley operation that uses American-type cars. It was too extensive for him to cover fully during the eight hours he spent riding there.

Other small companies that Bill took in on his tour include those at Santon, with open cars of British design, and Sarocabu, which has been an inter-urban-type line with a passenger motor to pull several trailers in a manner reminiscent of the old Anaconda Street Railway in Montana. Not visited on Bill's trip but believe to be still operating are trolley lines at Recife and Salvador. Who can list other lines now running in Brazil?

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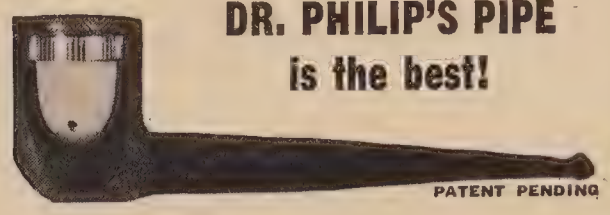

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"MONEY CAR" was what the Toronto Railway Co. called their old pay car, No. 28. Built by them in 1911, this car was single-ended and single-trucked. It delivered pay envelopes to employees at the various work locations until 1921. After that it was used to collect farebox and ticket sale receipts from divisional offices until it was replaced by an armored truck in 1938 and retired to shop storage. It was scrapped in 1951.

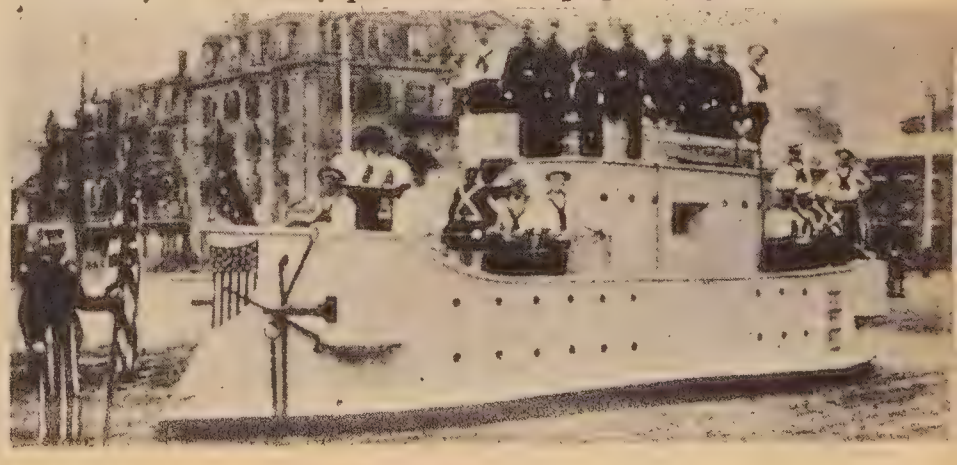
STREETCAR service on Chicago's famed State Street ended recently within two years of its 100th anniversary. Chicago Transit Authority has substituted 54 buses for the 45 Green Hornet PCC's on the Broadway line, which had been the last survivor of the many trolley lines using State Street. Today, Clark-Wentworth is CTA's only remaining trolley route.

Earliest public transportation on State Street in 1853, was by horse-drawn wagons. Six years later horsecars took over. They, in turn, were replaced by cable cars in 1892, in the days when Chicago had the world's largest cable system.

EXCELLENT coverage of traction lines in central California is to be found in a recent publication of the *Pacific Railway Journal*, a quarterly issued by the Southern California Chapter of the

Steve Maguire, 802 10th Ave., Belmar, N. J.
No. 28, Toronto Transportation Comm. pay car, in use today.

Steve Maguire collection
Odd trolley in McKinley presidential campaign. (Page 63)



No segregation at Ohio Railway Museum in Worthington as passenger enjoy ride on car 21, a well-kept relic of the past.

Richard Egan paints former Ohio PS car 64, a Museum restoration job.

Marilyn Miller is Museum's glamour dept.

All photos on this page and top of pages 63 and 64 by Dave Bunge, Box 41, Athe

Railway & Locomotive Historical Society. Entitled *Electric Railroading in Central California,* this 36-page brochure covers the Central California Traction, Stockton Electric Railroad, and the Tidewater Southern.

Profusely illustrated with both steam and juice photos, it also contains some good scale drawings of interurban equipment, maps, and timetable facsimiles. Copies can be had from *Pacific Railway Journal,* 2304 Melville Drive, San Marino, Calif. for $2 each.

San Francisco & Alameda Railroad, an eight-page booklet published by the same progressive group, tells the fascinating story of one of California's first steam roads. It sells at 50 cents a copy. Both books are well worth buying.

BALTIMORE has the longest American trolley line, says V. I. Tyler, 2031 East Belvidere Ave., Baltimore, Md., referring to the Baltimore Transit Company's Route 8. (See page 60.)

Routes 15 and 26 are Baltimore's only other remaining streetcar services. The future of all three is in doubt, as National City Lines is angling for permission to replace them with buses. Route 26, the Sparrows Point line, seems to have the best chance of survival. Bethlehem Steel may possibly buy it, since the big corporation transports most of its workers.

Recently Mayor D'Alesandro of Baltimore summed up the city's feelings, saying: "As far as the owners of the National City Lines are concerned, the sooner they are back where they came from, the better off the people of Baltimore will be. It would be poetic justice if they had to make the trip in one of their own buses."

Incidentally, Jerry Moore of Tulsa, Okla., writes that in a public election there the NCL lost the bus franchise for their Tulsa service to a local outfit by a 5 to 1 vote. NCL had been running buses in Tulsa since 1936, when they won in an election over the then operating trolley company and replaced all of the car lines with buses in accordance with their policy. In the past few years service had been so poor that the size of the vote against NCL was not surprising.

"TROLLEY BATTLESHIP" at Fitchburg, Mass., was pictured some years ago in a sketch in *Railroad Magazine* and more recently in the new book *Trolley Car Treasury*. Details on this contraption come from Donald E.

Work car 067, from Columbus & S. Ohio Electric Co., now at Worthington.

John Malloy

Want a trolley ride down Memory Lane? You're invited, and the fare is low.

Miss Marilyn Miller, 27 S. Knox St., Westerville, O., rides Museum's velocipede.

Shaw, 94 Federal St., Springfield, Mass.

"The car was strictly a political stunt and had no defense significance whatsoever," he says. "Called the *McKinley Cruiser,* it was one of the unique features in the Presidential campaign of 1896. The idea originated with Major Charles K. Darling. Architect Henry LaPointe perfected the plans. The crew consisted of ten enthusiastic Republican volunteers. I know of only one of the ten who is still alive—H. K. Bennett, at Oak Bluffs, Mass.

"The cruiser was later moved to Whalom Park. Covered with multi-colored lights, it made a beautiful sight at night. Celebrators set fire to it July 4, 1908, and that ended one of the most interesting trolleys ever to run."

OHIO RAILWAY MUSEUM, with a mile of operating trolley trackage at Worthington, recently added another valuable piece to its collection: Old, wooden, single-trucker car 068 of the Kansas City Public Service Co. This is a typical deck-roofed car of a half-century ago. Converted to a rail grinder by KCPS, it will be used first by the museum to smooth their own rails and then will be restored to its original condition as a passenger car.

The Ohio museum is noted for the excellent restoration jobs its members have done on old equipment. For example, former Ohio P.S. car 21 arrived in very poor condition but is now one of the most beautiful wooden interurban cars extant. A more recent effort by museum members is restoration of the rotting shell of OPS car 64, obtained three years ago.

Just how this restoration is accomplished you can easily determine when you see membership requirements. Each member living within 50 miles of Columbus, Ohio, pays yearly dues of $12 and during the winter months he must *work* 78 hours on the line and cars. An alternative is working four hours on any week you want, in order to get the privilege of operating the cars during the summer. Those living more than 50 miles away pay the same dues and have operating rights without the work requirements, subject to local approval. Anyone else can join for $2 a year as a non-operating member. This museum, now in its eighth year, is open to the public every day until October 1. Worthington is 10 miles north of Columbus on Route 23.

MEMORIES of the days of his youth as a horsecar driver on the old route between Covington, Ky., and Cincinnati, Ohio, line come from N. E. Burroughes, Hotel Huntington, Huntington, W. Va.

"We were on duty twelve hours a day at wages of 18 cents an hour," he recalls." One driver worked the whole car, collecting and ringing up fares as well as driving. Even though alone, he could manage this by taking advantage of favorable grades where his horses could carry on without his guidance. The teams had sense and soon learned to haul the car at a regular pace. I had one team of small donkeys that endeared themselves to me, but one of the mules I had caused me plenty of trouble.

"Each car had an enclosed front platform on which stood an old-style soda keg, filled with dry sand and covered by an empty tobacco caddy resting on it upside down. The keg was a popular seat for riders in good weather and a necessary piece of equipment when the rails became slippery. Our teams were not harnessed to hold the car—we had to do that ourselves with the hand brake. Using a groceryman's scoop carried in the keg, we would throw sand on the rails ahead of the car.

"Pearl Street in Cincinnati had a grade on which a *hill boy* was stationed with a single mule. If you had more than seven passengers, you signaled him to hook on the mule to help you up the hill.

"The busiest and most trying time I ever had on the streetcars came on July 4, 1888, when a Centennial Exposition opened in Cincinnati. I was an extra man and had the first car out. All day the cars were filled and ran late, and streets were jammed. I had one team that bolted on Suspension Bridge when they heard a cannon being fired from a landing below.

"At sundown, on my last trip, the throngs of people were thicker than ever, and at one place I had to go through with two mules on my car. A policeman went ahead to clear a path with his club. We made it finally, but I often wondered if he had hurt anyone."

THE LAST surviving trolley of the Covington, Ky., lines, the private car *Kentucky,* was featured in last December's issue of *Headlights,* the monthly news publication of the Electric Railroaders Ass'n., 145 Greenwich St., New York 6, N. Y. Built in 1892, near the end of the horsecar era, this car is now preserved at the William Behringer Museum, Devon Park, Covington, and is cared for by the Cincinnati Railway Historical Society.

April '57 issue of *Headlights* (James

Baxter, editor) featured the results of road tests of a Blackpool (England) tramcar, with pictures. We commend also the May '57 feature: city trolleys and interurbans of the Davenport (Iowa)-Rock Island (Ill.). James T. Ratcliffe supplied the text and many illustrations.

ALFRED SEIBEL, 28 Wells Ave., Croton-on-Hudson, N. Y., writes: "I am unable to verify the caption statement that the money-collection car pictured on page 52, June issue, used to be a bicycle-storage car. It was built in 1878 by Gilbert & Bush, Troy, N. Y., as No. 41, a standard coach for the original operators of the 3rd Ave. El. In '93 it was rebuilt as a ticket-collection car, and in 1903 it was wired for MU operation and equipped with controls and electric marker at one end only. Last January it was retired."

NEXT time we compile a list of operating trolley lines, we should state the number of car routes and the number and types of cars, in addition to mileage and location, suggests Harold McMann, Jr., 412 Dupont St., Toronto, Ont., Canada.

As a sample, Mr. McMann tells us that the Toronto Transportation Commission is now operating 18 car lines with 714 PCC's and about 165 Peter Witt cars (70 large ones and 95 of the shorter type, the latter being used only in rush hours).

CARBARN fires have plagued at least two foreign streetcar lines since the tragic Waterloo, Ia., blaze of four years ago that burned up all but two of the company's passenger cars and ended WCF&N interurban service. Last year the entire tram fleet of the Trondheim, Norway, system went up in smoke. About 40 cars were destroyed, most of them of modern design.

Argentina's only interurban, the General Urquiza Railroad of Buenos Aires, lost its carbarn and shops at Lynch in a sudden costly blaze last January. Erico Cleesattel, an Argentine trolley fan, tells us that the yard crews pulled many cars to safety, but four ex-Pacific Electric center-door cars and one ex-PE 1100 series interurban were destroyed. It was quite a bonfire.

There are still enough cars left to serve the line, but had not Pacific Electric been in so much of a hurry to sell its 5050 series for scrap (remember the famous picture of them stacked four high?), PE might now have a buyer.

LOS ANGELES. More than 25 years of thus-far fruitless study of L.A.'s transit problems were summarized recently by the *Mirror-News* in that city. The newspaper pointed up the dangers of short-range thinking about a matter so vital to municipal life.

Let's review it briefly. Right after World War I, when L.A. began to boom, city officials wisely emphasized the value of interurban lines. The Pacific Electric and the Los Angeles Ry. were pretty well blanketing the area and giving excellent service.

Then came World War II. The city's population kept rising. Gas rationing forced many motorists to store the family car for days at a time and return to public transportation. The need for a more up-to-date high-speed transit system became urgent.

With the end of war, the automobile became a road hog. Rail transportation slid into second place. The movement of industries away from the center of town and the mushrooming of suburbs changed the whole transit pattern. The strain on existing facilities was heightened as the city sprawled into a network of outlying communities. Countless workers who had to travel increasing distances to and from their jobs jammed the concrete at rush hours.

In 1947 California, like some other states, began building modern freeways. Intelligent planners suggested that California provide for a rapid-transit rail system of limited access in the middle of freeway routes or alongside them. But money was tight and costs were staggering. Critics said that what they termed a "dream" system of rapid transit would be too expensive to build —and a great opportunity was lost. •

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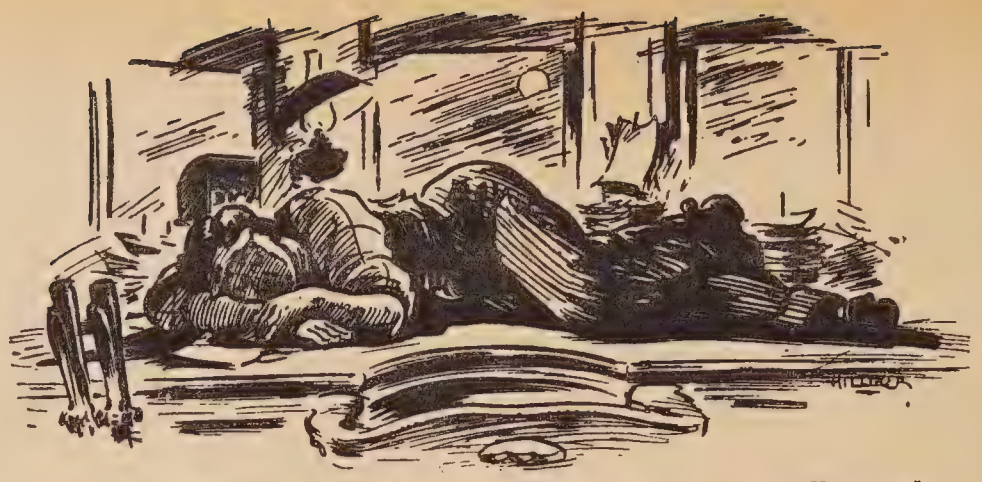
Edgar Found the Trick at Sandstorm a Trifle Harsh, a Bit Unreasonable, but the Chief Was Desperate and Had to Do Something



He had learned the strategem from better men, but not well enough.

NIGHT OPERATOR

by Harry Bedwell

NOBODY on the Desert Division of the Anaconda & Southern was particularly happy to see Edgar Andrew Foote show up for work in his territory. The kid just wasn't cut out to be a telegrapher.

Lean and pop-eyed, with horn-rimmed glasses and lousy with money, Edgar should have stayed in college for the rest of his life. But mamma had ambitious plans for him. Mrs. Samantha Foote of Boston wanted her only child to learn the railroad business "from the ground up"—and this lady had considerable weight to throw around, in more ways than one. She had inherited a large block of A&S stock from her husband, the late chairman of the board.

Edgar had learned the Morse code and the difference between a waybill and a timecard. With this background and an affable personality, and after being transferred from various other places, he was duly installed on the night wire in the small station at Woodburn, where it was thought he could do the least harm.

Now on such jobs the last quarter of the trick is the hardest. At three o'clock in the morning the graveyard shift is a total blank. With nothing to do, you bear your elbows down on the telegraph table, just trying to keep awake.

If you go to sleep and the dispatcher's call doesn't arouse you, or a train whistles for the board and you don't hear it, the chief takes your scalp. One way to get shut-eye is to stretch out on the telegraph table and crook an arm under your head. At the end of fifteen minutes, the arm cramps to a degree that the pain wakes you up.

Edgar had learned that trick from better men, but not well enough—and this time it failed him. Ten seconds after he had relaxed full length on the table, with the back of his head in the bend of his elbow, he became nicely unconscious. A little later, he aroused slightly to slip the arm from under his head. Then he really went to sleep.

Number 9, blasting for the board, got back only a red glare from the semaphores. Again the steam engine's whistle howled for the signal, but the red-eyed leer remained.

The engineer didn't shut her off till he was well within the yard limits. His train was *The Hawk*, the pride of A&S passenger service, and she made only operating stops on the Desert Division.

When the engineer finally decided that he was not going to get the board, he choked her down as quickly as he could without making a rough stop. But the observation car of No. 9 had halted just outside the yard limit. The brakeman waved the train back into town.

By this time Edgar was awake. The conductor dropped off and demanded what he had on the board. Edgar gave him a clearance—a trivial slip of paper authorizing *The Hawk* to proceed. All of which added up to a twenty-one-minute delay. The conductor didn't quite lay his hands on the young man.

ERNEST HACKWORTH, the division superintendent, was a grizzled veteran who had come up from the ranks. When he reached his desk in the morning, he had both the 8 a.m. report and Chief Dispatcher McKeon brought before him and he asked, "Why was Nine stopped at Woodburn last night?"

McKeon was bald and truculent. "Edgar Andrew Foote," he said, and paused a few seconds. "He says he must have fallen asleep." After that, Mac went into ominous silence.

Hackworth chewed his gray mustache. "You change him around a good deal."

"The instructions were, you remember, that he was to be given varied experience. Anyhow, if we left him at any one station long, the other boys there'd get violent with him."

Hackworth became taciturn, a habit he had when cornered. He showed interest in the desert sunshine that blazed on the window ledge.

McKeon let go then. "That kid,"

he stated, "has this whole division screwy. My dispatchers jump if a door slams. When hogheads approach a station where they know Edgar's on duty they try to detour quietly through the yard so he won't see 'em."

The super listened as Mac went on.

"He laid out Seventy-six for forty minutes while he was looking for an order he thought he had around the office some place. The conductor finally talked him into calling the dispatcher, who said there wasn't any order for Seventy-six." The chief added bitterly, "He can't telegraph fast enough to catch the itch."

"He learned it in a telegraph school," Hackworth murmured.

"You mean he tried to," Mac scoffed. "I'm going to lose some good dispatchers of bad hearts if Edgar stays on this division much longer."

"It can't last forever."

"I've called him in from Woodburn to save his life. Chuck Hansen, the agent there, has already threatened it. What shall we do with him now?"

Hackworth studied the chief dispatcher's face. "We're stuck with him, Mac. He is not to be fired on any account."

"Yeah, I know." Then a crafty look shone in Mac's eyes. "You'd like to get him out? Well, we have on this division about the lowest point on any man's railroad. A place called Sandstorm."

Hackworth smiled slowly.

SANDSTORM is a solitary spot in the desert, merely a depot, a passing track, and a semaphore. North, the country runs flat till it humps over the skyline. Great sand dunes, blinding white in the sun, roll south like a hot, choppy sea. Mirages move often in fantastic shapes over this blasted land.

Number 22 unloaded Edgar and his outfit at Sandstorm on a blazing high noon. There were trunks and hand luggage and rolls of bedding which he had brought for his comfort. Matt Cobb, the day operator, should have been warned of this emigration. The desert sunlight is tricky with the eyesight, and usually anything resembling what Twenty-Two dumped before the station would be an illusion.

Matt was a desert rat. He thrived on the heat and the quiet. And he was saving a stake in a lonesome place where there wasn't much to spend money for. Each year he forced himself to take a month off and visit civilization, so the sun and silence wouldn't get inside his head, but was always glad to return to Sandstorm.

Right now he stood by the doorway beside his mascot, a huge, tawny, one-eyed cat named Tommy, and considered the heap of personal effects and the thin figure in gray linen and dark glasses and wide Panama hat. He had been informed that he'd get a new night operator on Twenty-two, but this looked like a tourist movement. *There's enough clothing in all that baggage,* he figured, *to last the population of this desert for a generation.* Matt himself wore shorts and old khaki pants. Nothing else. He could do his week's laundry in about fifteen minutes.

"Look, fellow," he said cautiously, "do you know where you're at?"

Edgar eyed the depot sign.

"Sandstorm," he said. "Yes, that is correct."

"Are you the new night operator?" Matt asked anxiously.

"Yes. That is my position here."

"I don't know why this had to happen to me," the oldtimer muttered. "Well," he told Edgar, "stow your plunder in the room next to the kitchen."

The sun's glittering lances bounced from Matt's tough hide without making a dent. But, as time went on, they speared Edgar's white skin and turned it pink and peeled it off in strips.

"It's hot here," said Edgar.

"It gets worse in August," Matt promised.

Trade winds from the Gulf of California blew continual white streamers from the great dunes. Fine sand sifted through the window frames and formed ridges on the floor. It got into the eyes and the hair, the beds and the food.

"The sand is intrusive," Edgar fretted.

"Just take it easy when you bite down on your grub," said Matt. "Otherwise the sand grits your teeth. Me and Tommy got used to it long ago."

Coyotes, hungry for any scrap of food, tried to lure the big cat beyond the protection of the station. They romped by the door of nights and clamored murderously from the sand dunes.

Edgar shivered. "Those coyotes must be terribly vicious," he said.

"30"

"Avalanche Warning," the last story Harry Bedwell ever wrote, appeared in the recent May 11th *Saturday Evening Post*. It's a mighty good railroad yarn. The Old Man With a Scythe stood beside the boomer brass pounder while he typed his final "30" (no more). After Harry's death, his literary executor and fellow railroader, Bill Knapke, sent the script to *The Post* and received a prompt letter of acceptance with a $2500 check for his widow.

It is *The Post's* 14th and last Bedwell story. Although our own word rates are only a small fraction of what the big Philadelphia weekly pays, Harry was a loyal friend of *Railroad Magazine* and did most of his fiction-writing for us.

His "Night Operator," reprinted here, is dished up in a lighter-than-usual vein. Our next issue will carry a longer Bedwell story, "Code of the Boomer," originally scheduled for August but switched onto a siding at the last moment.

I don't think they ever got but one night operator from this station," Matt replied. "But he was a tough one, and mebby they ain't interested in you."

"How did Tommy lose his eye, Mr. Cobb?"

"Oh, that? Got into a fight with a coyote." The oldtimer chuckled. "Coyote came out second best."

Mexican laborers, in migration, and tramps who hadn't the four-bits to bribe watchful brakemen or the cunning to outwit them, walked the track at night to avoid the sun. They stopped at the station in ones and twos and gangs to beg water, sometimes food also.

Edgar said, "I don't feel safe in this lonely place with such desperate characters roaming about."

Matt grinned wryly. "Doggone! That last night operator of mine busted the station gun over one of 'em's head."

IT WAS too hot to sleep past ten in the morning, and Edgar wasn't good at amusing himself the remainder of the day with the facilities at hand. If he ventured into the sun it stabbed him harshly. His only resources were letters and papers from home. He couldn't even sew on his own buttons. And Matt Cobb decided, after Edgar's one attempt at cooking, that he'd rather die another way, and he took over the culinary department himself.

"Doesn't the company furnish any means of recreation in a place like this?" Edgar asked plaintively.

"Mebby you don't think so right now," Matt said, "but after a while you'll get real excited when a freight train with water cars stop to fill up our barrels. Then mebby a fruit train has a meet here, and we can snag ice out of the bunkers of a refrigerator car. But that don't happen often."

In some ways the desert is peculiar, especially at night. If you set a lantern outside any place after dark, crawling things, some of them large and hairy, ganged up on the light. Edgar noticed them one night and shuddered.

"Very loathsome," he said.

"Yeah, but watch out for the sidewinders," Matt warned. "They're little, but their bite is deadly."

"I find all these discomforts quite trying. Do you really like it here?"

"You can keep out of a lot of trouble in a place like this."

Dispatchers called Edgar only when they had to, and then with murder in their hearts. He was a "ham" who couldn't take over twenty words per minute at his best, and if he was confused he broke down altogether. That consumed too much time when the trains were rolling fast and frequent. And the dispatchers were never sure what he would do with an order after he had repeated it.

A mining engineer packed out of the desert with his outfit to move west on the first local. Edgar piled his equipment so close to the main line that a hotshot, slamming by, speared it and tossed it away in particles. There was a claim for costly instruments.

The trainmaster, riding a freight which stopped at Sandstorm for orders, came in to inspect the station with a view to reporting any failure in its maintenance. Edgar, who couldn't shine the lamp chimneys so the light got through, mistook the trainmaster in the gloom for a marauder and swung on him with a lantern. But not vigorously enough. The T.M. avoided the blow, and was glowering at Edgar when his train pulled out.

"How could I know he was a trainmaster?" the kid asked.

"If you'd collapsed it on his head," Matt replied, "you'd be well liked on this division, no matter what else you ever did."

Chief Dispatcher McKeon called Matt on the wire next morning. "Is that Edgar around close?" he inquired.

Matt sent: "No. Do you want him?"

"Hell, no!" Mac snapped back. "I just wondered if he shows any sign of quitting. This is getting tough."

"Well," Matt clicked woefully, "I've done my best. I even hid his toothbrush. But all that got me was working his trick till midnight while he rode a freight to Drummond and back to get another one."

Mac sputtered the sounder. "I thought sure that between the sand and the coyotes and the sidewinders and you, he'd quick lose his lust for railroads and the Wild West. I depended on you."

"It ain't Edgar so much," Matt explained. "It's his ma. She writes him complete instructions and he's scared to do anything but follow 'em. He's got to stick or mamma spank. Look, Mac, if this keeps up I gotta have another vacation next month."

The chief raved at him. "You stay there, but don't get him sore. The Old Man says that. And mebby we're better off with him than Mrs. Foote jumping down our necks. Don't you ever have any earthquakes out there that might destroy all of you and the station?"

"No," said Mat sadly. "Everything has been lovely here till you sent me Edgar."

EDGAR watched the mirages a good deal. At first he said they were a wonderful phenomenon. Then he got to wondering out loud if it wasn't spirits of the desert building their fancies out of the air. Matt watched him closer after that. If the sun and silence do things like that to you, you'll stand watching.

The agent racked his brain in a futile search for stunts that would discourage Edgar from prolonging his stay at Sandstorm. The kid complained, but he stuck. As time went on, they both got jumpy and began talking to themselves.

One night, some trader rats in the rafters overhead decided to play ball with a walnut. Tommy pricked up both ears, gave a low meow that sounded like a growl, and went back to sleep. Edgar could actually hear him snoring. The rodents continued their game.

"If you were any darned good," Edgar accused the cat, "you'd rid this terrible station of rats P.D.Q."

Tommy ignored the remark. After a while the dispatcher put out an order at Sandstorm for extra east. At the same time he warned Edgar

that there was a light engine ahead of the extra and he didn't want her stopped or delayed. He said it slowly twice, in a nervous chill, but Edgar's mind was on his trader rats, wondering if they weren't desert spirits, so when the light engine showed and sounded for the board, he didn't give it to her. Then he tried to figure out why he hadn't.

Although the hogger and the dispatcher managed to get him straightened out, all three were fit to be tied. The engineer had headed into the passing track, but he forgot that when he started to leave Sandstorm. He just opened her up and went away from there, scared lest he lose control and lay hands on Edgar. He slammed through the closed east switch and didn't know it.

By the time the fireman had made him understand what he'd done, he was rolling it a mile down the iron. Then he thought sure enough it must have been a spring switch and no damage done, else he'd have been on the ground. He kept on rolling. He realized that if he went back, Edgar would snare him for another delay.

The trader rats went to bed, or some place, and Edgar tried to think of something else. A coyote yipped. Then a tramp stuck his fuzzy head in at the doorway. After Edgar had got rid of the tramp, he began to read his mother's letters over backward. The cat was still curled in a yellow ball, not much of a companion for Edgar Andrew Foote.

Then a stock extra west began to paint streaks along the sand dunes with her headlight. She came over the hump and approached the station gingerly. The hogger knew that anything might happen at Sandstorm with the kid on duty. And anything did.

The hoghead asked for the board, four pleading bleats of the whistle. He had her choked down and had tightened up on the air. When the semaphore light turned green, he let off the air, but he didn't open her up. A well-developed sense of caution is necessary in a hogger.

However, it wasn't a spring switch that the light engine had gone through at the east end of the passing track. It was an old stiff-point type. And that light engine had bent the points away from the rails far enough to catch the flanges of wheels rolling west.

After Edgar had given the stock extra the board, he stood by the semaphore levers and watched her come. Quite an interesting sight, that long dark line thundering through the night under the desert stars. When the extra struck the bent switch points, she veered from the main line and took to the open country, with a ripping and rending. The pilot of the engine tossed up sand like a snow plow as she made for the station.

STUDYING mirages had made Edgar slightly dubious of events, even when he saw them. He watched this phenomenon with unconcern till the locomotive stuck her nose deep in the sand outside the depot.

She stopped then, and reared and leaned slowly against the east corner of the office. That corner of the station crushed in as the whole building moved three feet to the rear! Tommy yowled in protest and his one eye glittered fiercely as he slid across the room.

Edgar instantly left the office. He went through the screen door into the kitchen, and then through the screen door into his bedroom. Both doors were shut against him at the time. He merely crashed through and took them with him. But the solid door into the next room was warped and jammed, and it stopped Edgar, with his nose flattened out against it. He turned to the left, and he shed the two screen doors from his person as he dove out the window.

The first car of sheep behind the engine kept parallel to the main line when it left the rails. Four car-lengths from the switch it collided with a telegraph pole. It broke open and turned over on its side, spilling sheep from both decks. The woollies ran and bleated through the night.

Edgar's dive through the window landed him squarely on top of a huge ram that was headed toward a home

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on the range—or somewhere. As he did so, the frightened beast redoubled its speed. Edgar clutched the wool on its back with hands and elbows and knees. He rolled about till he was seasick.

Then, without warning, the ram leaped—down, down through black space—and finally landed at the bottom of a gully. Edgar was thrown onto a sandbank, his spectacles broken under his feet, and all the stars in heaven descended and wheeled about his head.

Immediately afterward, the flock of sheep came over. Following the leader, they trampled the night operator in their mad flight, leaving numberless dents in his person.

As the last sheep passed over him, Edgar staggered to his feet in the starlight and pushed his way through the stampeding flock, minus his horn-rimmed glasses.

Meanwhile, Matt Cobb, awakened and bounced from his bed by the convulsions of the building, thought at first that McKeon had wished the earthquake on him. Then he cursed Edgar, because he knew instinctively that the kid was to blame for whatever had happened. Matt went out the back door. He paused to inspect the locomotive that leaned so confidently against his station.

These apparent optical illusions had to be verified. He felt in the dark with his bare toes for a rock and found it. He swung his leg and tossed the rock at the engine. It rang on the boiler. Matt was convinced and he approached.

The engineer was surveying his engine by the light of a torch. The fireman returned hesitantly from some distance in the desert. The head brakeman peered down from the top of the tender, awaiting the next catastrophe. The conductor came up from the rear on the run.

Matt peered into the office. The oil lamp burned placidly on the telegraph table. In the muggy light of the smudged chimney he checked the contents of the room, item by item. Tommy was safe enough. The cat rubbed his tawny head against the agent's pajama legs and purred gently as if nothing had happened.

"Where in hell is Edgar?" Matt asked.

"Mebby," grinned the conductor, "the white streak I saw leading that flock of sheep was him."

The following morning, at division headquarters, Superintendent Hackworth had both the 8 a.m. report and Chief Dispatcher McKeon brought before him. Looking up from a telegram, he announced:

"I have here a message from Mrs. Samantha Foote regarding her son."

A spasm crawled up Mac's brow to the top of his head and he almost strangled. "If that lame-brained son of a —"

"Hold it!" interrupted the super. "Mrs. Foote wishes all of Edgar's personal belongings returned to her home in Boston and she advises that she is withdrawing her financial support from the Anaconda & Southern Railroad."

Mac yelped with joy. "I don't care what in tarnation she withdraws, just so long as it's Edgar." ●

MAIL CAR

(Continued from page 9)

"My seventh-grade school teacher, knowing that I liked trains, gave me the first copy of *Railroad Magazine* I ever saw," writes Ralph Wilfong, Rte. 1, Box 172-A, Grottoes, Va. "I lived in Los Angeles then and my teacher's husband worked for the Union Pacific."

Fred Woolford, age 32, was injured in a Virginia coal-mine accident. A motor ambulance tried to reach him but was turned back by flooded highways. Chesapeake & Ohio railroaders came to the rescue. They loaded Woolford into a diesel locomotive cab, made him as comfortable as they could, and rushed him to the Williamson yards. There an ambulance picked him up and took him the rest of the way to a hospital.

An elderly man asked the clerk on duty at the Canadian National office in St. Catherines, Ont., what a railway tie was worth. The clerk, puzzled but obliging, phoned around and then said, "$4.24." The visitor dug into his wallet and handed over the sum mentioned. "Back in 1931," he said, "I stole a tie at Demaine, Sask., and it's been bothering me ever since. Now my conscience is clear." ●

ULTRA-MODERN. The Reading Railroad is using thermal relays for experimental remote-control of a diesel locomotive and the company has just placed in operation on its New York branch an infra-red ray method to detect hotboxes. Both new advances use the principle of temperature control. They are the latest electronic improvements on the 1,300-mile Reading system, announces E. Paul Gangewere, vice president in charge of operation and maintenance.

In the r.-c. experiment, the starting and stopping of the diesel's motor is controlled by a series of thermal relays, geared to certain temperatures and plugged into service upon completion of its run. A cable connecting the thermal mechanism to the office of an engine-house foreman miles away, activating a light and a buzzer, keeps him informed on the starting and stopping of the diesel motor. Thus the locomotive is kept ready for quick service in freezing weather.

The new system for detecting overheated journal bearings went into effect near Weston-Manville, N. J. An infra-red "camera" with a shutter is clicked automatically by each journal on a passing train. A lens picks up the journal's temperature which, if too hot, sets up a thermal relay. This relay, in turn, gives an indication at either the next signal or the first control tower ahead, so that the train can be stopped.

Says Mr. Gangewere: "The application of infra-red rays has great future possibilities to many railroad operating problems and we intend to take full advantage of it." ●

ROMANTIC EPISODE from W. K. Yeatman, 5309 Ave. N, Central Park, Birmingham, Ala.: "In 1890 I hired out as a passenger brakeman on the East Tennessee, Virginia & Georgia, with a run between Selma and Meridian. I was then 17 years old. The railroad cut through a cornfield near Faunsdale, Ala. The field belonged to Colonel Inge, a typical gentleman of the Old South, with a gray goatee and an only daughter, Annabelle. This girl was in the fresh bloom of marriageable youth. But the colonel did not want her wed and especially not to Harry Peacock, the young owner of a large iron works. He ordered Harry to stop courting her and never again to come within gunshot range of the Inge mansion.

"Harry and Annabelle were in love. We sympathized with them. My conductor, John Riggs, agreed to stop our train one night in the cornfield opposite the mansion, with Harry hiding in the baggage car and his sweetheart waiting in the shadows to climb aboard. Well, it worked out fine. Annabelle was there with a suitcase. We helped her up the steps of the first coach, and we quickly pulled out. That night the couple were married at Meridian.

"Next morning the Faunsdale agent wired Harry that the colonel was storming up and down the station platform, armed with a gun. When we stopped at Faunsdale, we saw the old man but I didn't see any gun. Our division super, John Bridges, was a personal friend of his. The irate colonel brandished his heavy walking stick at Conductor Riggs, shouting, 'I'll see that Bridges fires you for this!'

"Later, Mr. Bridges only laughed about it, and in time Colonel Inge cooled down and forgave the elopers. The ETV&G has since become part of the Southern Railway." ●

OVERSEAS. Japan and India have just been added to the list of countries which adopted the electrification technique developed by the French National Railroads for cutting down on power costs. This system uses an industrial frequency of 25,000 volts, 50 cycles. India is applying it to 800 miles of railroad around Calcutta. The other countries which followed the French lead include Great Britain, Portugal, the Belgian Congo, and Turkey.

Joe Easley showed us in *Along the Iron Pike* (April issue) how tumbleweed held in place between parallel wire fences keeps the sand from blowing on Texas & Pacific tracks. Construction engineers achieved this result for the Saudi-Arabian Railway in Asia by leveling the sand dunes on both sides of the roadbed and spraying on crude oil. *Tracks* magazine (C&O) reports that the sun baked this mixture into a hard thick crust. Thereafter, when desert winds put a dune on the march toward the rails, the tiny particles found no foot-hold and skated across the right-of-way.

East African Railways have trouble with jungle beasts. Here are excerpts from reports of three stationmasters:

"One Buffalo at mile 72/8 chasing (section) gang man."

"You (are) required urgently at Irima station to watch and kill notorious lion hunting railway staff after six p.m. daily."

"Yard congested with about 11 elephants . . . Switches will not be manned."

When did Egypt inaugurate railway service? Nobody seems to know. Last Jan. 31 the Nasser regime issued a postage stamp picturing a modern streamliner beside an old 2-4-0 type engine and putting the date at 1856. However, 23 years ago the Egyptian government issued a stamp picturing the same 2-4-0 and stating that this locomotive was in service in 1852. Adding to the confusion is the diary of a traveler, written in 1854, saying he had "boarded a train at Cairo for a journey toward Alexandria."

This summer, for the first time in history, a traveler can board a British Railways train in London, retire to a sleeping-car berth for an undisturbed night's slumber, and leave the train in Brussels, Belgium—or vice versa—without the necessity of changing at the seaports for the boat trip across the English Channel. This is made possible by the use of special car-carrying ferries that cross the channel.

Brazil has just purchased nearly $1 million worth of diesel-electric locomotives from General Electric in a move to modernize commuter rail service for Rio de Janeiro. Contracts call for six narrow-gage units that are part of a standard line of universal export locomotives introduced by the company's Locomotive and Car Equipment Department at Erie, Pa., several months ago and rather widely publicized. ●

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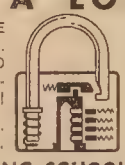

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THE WORD *boomer* came into railroad lingo from the fact that the American Bridge Co. employed many itinerant workers from time to time, and as L. T. Boomer was president of ABS they were known as "Boomer's men" or "boomers." So says George Milburn, 33 W. 8th St., New York 11, N. Y. George has written fiction stories for top-ranking literary magazines, some of which have been collected into a pocketbook entitled *Hobos and Harlots*. He is now revising another volume of his, *The Hobo's Handbook*, and wants to hear from readers who can shed light on old hobo poems such as Haywire Mac's famous version of *The Big Rock Candy Mountains*. ●

ENGLISH RAILFAN. "I have been a fool for trains for as long as I can remember," writes John Harrison (age 34), 21 Sefton Park Rd., Bristol, England. "One of my earliest recollections is that of a crossing watchman on the old Midland Railway who used to tolerate small boys sitting in his shack, drinking his strong tea, and watching the trains go by.

"When I was nine years old, in bed with a childish ailment, someone gave me a stack of woodpulp *Railroad Magazines*. They fascinated me. I read and reread them. I could toss around boomers' slang, but none of the staff of the Midland or Great Western knew what I was talking about. Not until 1947 did I begin getting the magazine regularly—by annual subscription through a British mail-order house.

"North American trains attract me, due to *Railroad's* influence on my impressionable childhood. I am a model railroader. Just recently I switched to HO gage, American prototype, after 20 years of O and OO, British prototype, and have joined the NMRA. It seems the next best thing to visiting your country and seeing the real thing.

"That shot of the *Bowker's* cab interior (Feb. issue) reminds me of the night I walked through a medium-sized air raid to see the movie *Union Pacific* for the fifth time! I enjoy most of your features, preferring human and historical interest to technical data. I always read the *Information Booth*, usually find something I like there, and appreciate the editor's portrait, anyway. I like the traction and electric material. Your photographs set a high standard, generally speaking, and your covers are excellent.

"Aside from Harry Bedwell's stories, I don't care much for your fiction. Bedwell was a fine descriptive writer. I, who have never been within 3,000 miles of Pennsylvania, could read his 'Wanderlust' (April issue), shut my eyes, and see a picture of that tower in the rolling hills of Pennsylvania, and of Eddie's walking down to the crossing and meeting the other operator, strolling home with him in the dark, and the two men having supper at the farmhouse." ●

NEXT TIME you see that picture of the gigantic ore pier on the Pennsy's 1957 calendar, think of Miss Mary Ann Kupiec. The father of this 19-year-old beauty is a longshoreman at Philadelphia, often handling ship-to-shore jobs for the Pennsy and helping out on the ore pier. Mary Ann is a railroad girl. She is employed by The Mutual Beneficial Association of Pennsylvania Railroad Employees, Inc., the multi-million-dollar corporation which concerns itself with PRR social, welfare, and insurance matters. She also assists on *The Mutual Magazine*, a 42-year-old monthly employee publication. Mary Ann is single and lives at 29 Overhill Rd., Upper Darby, Pa. ●

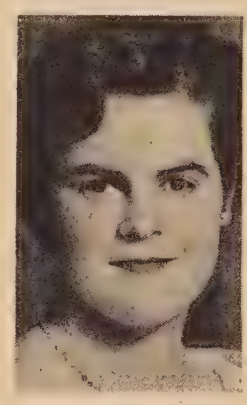
Mary Ann Kupiec

56 YEARS AGO, T. Ernie Davis began railroading for the Frisco in telegraph service at Norwood, Mo. "My first pay check ($50) was dated May 21, 1903," he recalls. "Even before I spent it, a local merchant cashed the check for ten five-dollar bills. That was the first folding money I ever owned. Greenbacks in those days were much larger than those of today. I went right up to my room, spread out those bills on my bed, and counted them over and over. The mere possession of money made me feel good.

"After paying $12 for a month's board and room, I bought myself a new suit, a tall, stiff, white collar, and a pair of button shoes. I felt like a dude when I strolled over to the depot that evening. The agent, Ben Adams, introduced me to several Normal School girls, saying: 'Take your pick, Ernie.' That remark made them giggle. I picked Cleo Ellis and walked her home. I'll never forget that night under the stars. Cleo was pretty, the moonlight cast tree-shadows over her face, and I was wearing new duds. (Some time later my brother, who was a train dispatcher, married Cleo.)

"I worked a 12-hour day, seven days a week, with not even a day off once a month, but every cent of my check was take-home pay. Am now retired. I've been living by myself since my wife of 49 years passed away last year. Wish someone would write to me at 5216 S. Figueroa St., Los Angeles 37, Calif." ●

MEET Relda Beauchamp, age 20, who lives in a settlement of 60 houses owned by New Zealand Government Railways at B-139 Sunshine Tamarunui. North Island, N. Z. Four members of Relda's family went in for railroading. Her father, Edgar W. Beauchamp, is a locomotive engineer with 38 years' seniority. "I started reading *Railroad Magazine* about in 1930," he writes, "when I was stationed at Wellington, the capital of New Zealand, and I still get a lot of pleasure from it, especially the 'Ask Barbara' department, *Photos of the Month*, your front covers, and the stories by Haywire Mac and Harry Bedwell." ●



Relda Beauchamp

"I OFTEN used to see the 4509, largest and most powerful of the Frisco's steam engines, wheeling the *Bluebonnet* between St. Louis and Springfield, Mo.," writes J. Robert Browne, 930 N. Lynn, Independence, Mo. "Her stack roared as she stamped up Dixon Hill with her long string of varnish. That ended seven years ago. The *Bluebonnet* no longer runs, the hill has been trimmed down to an easy grade, and the thrilling neigh of iron horses no longer sets echoes ringing in the peaceful Ozarks.

"Recently I passed the Sheffield Steel Co. plant in Kansas City which has been buying Frisco and Santa Fe steamers to cut up for their blast furnaces, and the 4509 was one of them." ●

NEWS BRIEFS. Southern Ry. did not join with other Southeastern roads in the recent application to the

ICC for an overall 15 percent freight-rate increase because, according to Harry A. DeButts, president, it is "convinced that large rate increases reduce our income by driving business away from us."

The Southern Pacific is now planting 4,000 trees in Siskiyou County, Calif., to replace timber destroyed on 2,900 acres of SP Land Co. property by fire in 1955. This road has long been a leader in conservation of forest lands.

One reason why the Long Island has applied for permission to increase passenger fares is the enormously high rent it pays the Pennsylvania Railroad for using the lower level of New York's Penn Station and its approaches. Last year's total was more than $4,000,000, including sums paid for maintenance, operation, interest, and depreciation.

"Who says the day of the brass pounder is gone?" asks E. J. Quinby, 30 Blackburn Rd., Summit, N. J. "Just recently I saw this sign posted in a Boston & Maine passenger station: 'Wanted: young men for railroad telegraph service. Learn the art of telegraphy now. Classes being formed. For particulars, see Herbert S. Streeter, 136 Main St., Room 20, Greenfield, Mass.' " This item will surprise some readers.

Southern Pacific's twin streamliners, *The Daylight*, act as an informal Chamber of Commerce for towns along their 470-mile route between San Francisco and Los Angeles. At San Jose, for example, *Daylight's* public-address system announces: "San Jose is the largest city of the Santa Clara Valley, and a busy industrial area. The Santa Clara Valley produces a lot of California's fruit and more than half of the world's prunes."

Says *Railway Age*: "Bled by inflation, battered by competition, corseted by regulation, the miracle is that the railroads can do as well as they do." ●

EIGHT-WHEELERS. "There are many 4-4-0's in service on British Railways, some of them built rather recently," writes John Nash, 307 Poplar Crescent, Saskatoon, Sask., Canada. "Perhaps the finest of this type is the Schools class, built in the 1950's by the Southern Railway (now British Railways, Southern Region). These powerful and handsome engines were named after famous English schools. Some connoisseurs regard them as the best-looking of all present-day steam locomotives. They were designed mainly for fast commuter traffic between London and the Kent coast, the four-coupled wheel arrangement being chosen to permit highest possible speed on sharp curves." ●

NARROW-GAGE. The last piece of rolling stock from the abandoned Nantucket Railroad, a narrow-gage line on an island off the coast of Massachusetts, is an old passenger coach now used as a lunchroom, reports Harry F. Thomas, 194 Water St., Stonington, Conn. Our correspondent is a retired New Haven towerman and the author of several *Railroad Magazine* feature articles, including a Nantucket history. ●

THE ONLY ENGINEER we know of for whom *two* locomotives were named was P. T. McCarthy of the Lake Superior & Ishpeming, the two being Eight-wheeler No. 3 and Consolidation-type No. 18. The 4-4-0 was bought second-hand from the Union Pacific by a predecessor road of the LS&I and McCarthy handled her on passenger trains 1 and 4, proud because his name was emblazoned on her cab in gilt letters. Later, 1 and 4 were abolished. McCarthy then took a mixed train and engine No. 18, which was named for him.

Nine years ago No. 3 was sold to the Detroit, Cairo & Sandusky and went to the junk pile when that line ceased operating. No. 18 is stored in the Presque Isle roundhouse at Marquette, Mich., during cold weather but is brought out each summer for work in spotting empty ore cars at mines in and around Ishpeming, Mich.

Consolidation-type No. 22, named for Engineer George L. O'Neill, likewise was in mixed train service and now keeps No. 18 company in winter storage and summer work. Three other LS&I Consolidations, Nos. 8, 23, and 29, also used to bear their engineers' names, reports Dallas Nelson, Rte. 1, Gladstone, Michigan. ●

BALDWIN built 194 cab-ahead locomotives for the Southern Pacific, not merely 177 as our December issue stated, according to Robert Field of San Francisco. "Last of the lot, delivered in 1944, was No. 4294, which the SP will preserve at Sacramento," he writes. "Lima did not deliver the SP's 2-8-8-2's (cab-in-fronters) but actually delivered the road's 2-8-8-4's (not cab-in-fronters). More than twelve 2-8-8-2's

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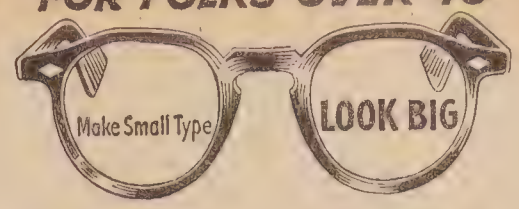

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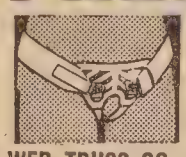

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were delivered altogether, and eleven 2-8-8-4's." ●

COMPLETION of the Western Pacific's new tunnel in Feather River Canyon the other day evoked this remark from the road's president, F. B. Whitman: "We did not like to put $2,000,000 into a new hole in the ground, but we consider the money well spent to avoid tie-ups of our line."

The 3120-foot tunnel detours around an area of decomposed granite rock which an earthquake of 1952 had rendered unstable. On one occasion this condition was so severe that it blocked both railroad and highway for several days. Track through the new tunnel is laid with welded 119-pound rail from the WP's own rail-welding plant at Winnemucca, Nevada. First train to use it was the westbound *California Zephyr.* ●

CANADIAN railways do not figure prominently in speed surveys because conditions here are not conducive to fast running," writes Robert R. Brown, 731 42nd Ave., Lachine, Que., Canada. "There are too many speed restrictions due to level crossings, industrial and congested areas, etc. What the actual speed is out in the open country I do not know, but I have often raced trains by automobile on a nearby and parallel highway between Berthier and Trois Rivieres and noted speeds of from 70 to 75 miles per hour. Once, about two years ago, I saw the speedometer of a Budd rail car register between 80 and 82 mph. continuously for about ten miles between Ste. Therese and St. Jerome, Quebec."

The Canadian Pacific recently cut 75 minutes from the running time of its *Super-Continental* on the 2,925- mile run from Montreal to Vancouver.

Supplementing the list of Canadian National locomotive renumberings that he supplied for our June issue, Elwin K. Heath, Barre, Vt., sends the following information on the 222 new diesel untis ordered by Canadian National, giving numbers, horsepower rating, types, and classes:

1271-1288	1200	Rd. Sw.	GR-12-k
1730-1734	1000	Rd. Sw.	MR-10-d
3615-3670	1800	Rd. Sw.	MR-18-d
4100-4133	1750	Rd. Sw.	GR-17-p
4560-4587	1750	Rd. Sw.	GR-17-m
4588-4609	1750	Rd. Sw.	GR-17-n
6523-6532	1750	"A" Pass.	GPA-17-d
6621-6630	1750	"B" Pass.	GPB-17-d
7233-7242	900	Yard Sw.	GS-9-c
8206-8234	1000	Yard Sw.	MS-10-n

All the above locomotives except those in the second and third lines were built by GMD Ltd. Nos. 3615 and 3616 are already in service. The locomotives in Class GP-17-p are being put into a new numbering series so that they, along with Nos. 6523-6532 and 6621-6630, can be geared for 90 mph. speeds.

Mr. Heath reports also that the Canadian Pacific has ordered the following new diesel yard switchers from Montreal Locomotive Works: Nos. 6562-6600, with 660 hp.; and these new diesel road switchers: 8636-8708, with 1750 hp., from GMD Ltd.; and 8709-8728, with 1600 hp., from CLC/FM; and 8729-8748, with 1800 hp., from Montreal Locomotive Works.

The CPR is renumbering 0-8-0 steamers in the 6600 series so that their numbers may be used for the new diesels renumbered into that series. ●

ALASKA RAILROAD crews regard a moose on the single-track line as a serious problem, especially in winter. This huge powerful beast weighs 1100 to 1300 pounds. He can easily get out of a train's way where there is no deep snow. But when rotary plows have piled the white stuff in sheer walls ten or more feet high on both sides of the track and a moose is using the cleared path as a thoroughfare, it is usually impossible for him to detour off the track unless he comes to a siding, a branch line, or some other cleared section.

Each winter, several moose are killed by trains in Alaska, despite the crews' best efforts to prevent this slaughter. Railroaders have tried various humane methods to discourage the big fellows from walking along the track. These methods include the "moose-gooser" (an electrically-charged rod jutting out in front of the pilot), oscillating red and white lights, mechanical noise-makers, rockets, and even experiments with scents simulating those of wolves or other predatory animals, but none of them have solved the problem. ●

THE VANISHING FRONTIER is being pushed back still further. Three more diesel-electric locomotives have just been received at Skagway, Alaska, by the White Pass & Yukon Route—the same railroad that sent wood-burning engines with trainloads of prospectors and mining supplies chugging over the rugged White Pass during the gold rush.

There are still some die-hard steam engines in WP&Y service, but the road is now 85 percent dieselized. Officials don't mourn the passing of steam. It is a simple case of economics. J. C. Hoy, superintendent of the WP&Y Rail Division, says: "Compared to the steamers the two GE diesel-electrics originally in service here save 60 percent in fuel costs, are easier to maintain, and are easier on the roadbed."

The three new locomotives were designed especially by General Electric for the WP&Y, which operates in some of the fiercest winter weather that any railroad could encounter. A snowplow reminiscent of the old cowcatcher but much larger, is attached to the front of each cab. Although this can toss aside several feet of snow, it is not always enough. Drifts up to 35 feet deep require a rotary plow to precede the train. Often the going is pretty rugged.

The diesel-electrics can operate in an extreme temperature range—up to 90 degrees F. in summer and as low as 65 below zero in winter. Each is equipped with a device for heating the cooling radiator on downgrade hauls. While descending a steep grade (as much as 3.9 percent) and dynamic braking is being used, special air ducts collect the resulting hot air from the dynamic braking system and deliver it to the diesel engine's cooling water radiator.

Each GE locomotive can pull 260-ton trains through mountainous territory, as compared with trains of about 160 tons for the steamers now in service. The 111-mile road carries many excursionists but hauls mostly freight, including base metals and military construction materials. ●

SUGAR RAILWAY. "U. S. Sugar Corp. never had narrow-gage trackage," writes E. A. ("Frog") Smith, 260 Poe St., Fort Myers, Fla., contradicting a statement made by Charles M. Wilson in his article, "Steel Rails Through the Tall Cane" (April issue).

"Their first tracks at Clewiston, Fla., were laid in 1928," he goes on, "and their first makeshift locomotive was a Fordson tractor on rails. Next came a 20-ton Davenport gasoline engine that occasionally jumped the track into a sand pile. A Bay City steam crane would pick her up and re-rail her. When the Fordson or the Davenport refused to run, which was often, the Bay City did the switching. How do I know? I worked there as a pipe-fitter on the sugar-mill construction job.

"The Clewiston line has changed its motive power from steam to diesel, but keeps a high-wheeled Pacific-type, No. 148, in the yard as a stand-by. No. 148

is the last of the finest sugar-railway fleet of locomotives to be seen anywhere. I revisited that road the other day to take her picture.

"Among the Ten-wheelers that ran on the U. S. Sugar Line was No. 105. She would plow through the muck and once pulled into the old station at Clewiston with two moccasin snakes and an alligator on her pilot! For years a familiar sight was No. 204, a giant six-wheeled switcher. She could walk out of the yard with 175 sugar cars tied to her tail!" ●

CLARENCE E. GRINNELL, get in touch with your daughter, Miss Leona Grinnell, 3440 Eden Lane, Oakland, Calif. The missing man is believed to be a retired conductor who began railroading at age 16 and hired out to the Southern Pacific, the Northern Electric, and the Santa Fe, but not necessarily in that order. The Railroad Retirement Board, the ORC, and the BMT say they have no record of anyone by that name. Possibly he worked "under a flag."

Clarence E. Grinnell

If Mr. Grinnell is still living, he would be 74 on August 8th, nearly six feet tall, and gray-haired.

"I have one sister and one brother," Leona writes. "We would give the world to see our father again. He left home when we were very small. I am now twenty-six years old." ●

LATE NEWS. Exit the historic old Nashville, Chattanooga & St. Louis as an independent road! The ICC has just approved its merger into the Louisville & Nashville system.

Don Wood's action shot of a radio-equipped Pennsy coal train on page 16 won top place in reader votes for the best of our April *Photos of the Month,* followed closely by. Bill Middleton's foliage-framed IC steamer, page 21, and Earl Storm's "Winter Episode," 15. Pix on 18, 20, 19, and 17 trailed in that order. We delayed announcing the results because late votes kept dribbling in.

Southern Pacific has just put into use a new electronic computer system to help master-mind its distribution of empty boxcars to shippers. This system steps up utilization of the existing car supply and this puts the SP in a better position than before to meet demands of business and industry.

The final whistle of a steam locomotive in regular main-line service in New England was heard last March 29 when the Central Vermont's *Montrealer* headed north through Vermont with Canadian National steamer 6208, reports Elwin K. Heath, Box 15, Barre, Vt. The CV was steam's last stronghold in northeastern U. S., but is now fully dieselized.

Now that the New York, Ontario & Western is liquidated, readers are asking if we ever published an all-time locomotive roster of it. The answer is yes, in three parts: May, June, and July '43. We have none of these issues left but they may be obtained through our *Switch List* or from Arnold Joseph, 212 Tratman Ave., New York City, or Owen Davies, 1214 N. LaSalle St., Chicago, Ill., or Grahame Hardy, Carson City, Nevada.

The Central Railroad Co. of Pennsylvania has opened negotiations for acquiring the Lehigh & Susquehanna and affiliated roads, including the Nesquehoning Valley, the Tresckow and the Wilkes-Barre & Scranton Valley, all of which it has been operating for more than 60 years under a perpetual lease from the Lehigh Coal & Navigation Co. ●

Next Issue: October (out Aug. 1)

"Camelbacks"—why two-cabbers were built, their years of triumph, why they passed out—by H. L. Kelso and Warren D. Stowman.

"Mr. Locomotive," a frank word-picture of Rudolf Diesel, by Charles Morrow Wilson, who knew him personally, plus significant facts about the rise and future of diesel locomotives.

"Smoke Orders": Bill Knapke recalls an exciting technique of single-track railroading in the days when hoggers took long chances.

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The Pennsylvania still uses some steam power (see roster, page 36), including No. 6738, shown wheeling a long string of freight out of Enola, Pa. Five car-lengths back of tender is New York & Long Branch No. 920, also in active service.

Don Wood, 29 Mt. Haven Drive, Livingston, N. J.

Books of the Rails

by P. C. GRAVES

LOCOMOTIVE CYCLOPEDIA OF AMERICAN PRACTICE, 15th Edition, Simmons Boardman Publishing Corp., 30 Church St., New York, N. Y., 728 pages. $12.

This monumental work has long been popular with motive-power men and railfans all over the English-speaking world. The newest edition, like previous ones, offers a rich supply of photos, diagrams, definitions, and explanations of railroad and industrial locomotives, including parts and equipment.

BULLETIN NO. 95, Railway & Locomotive Historical Society, Inc., Baker Library, Harvard Business School, Boston, Mass., 100 pages. Price to members, $2; nonmembers, $3.

The lead article, by J. Wallace Higgins III, is a history of the Kansas City, Mexico & Orient, which sheds much additional light on the fabulous career of railroad-builder Arthur Stilwell. (See "He Followed a Hunch," by Harold K. Vollrath, in April '57 *Railroad Magazine*.) The R&LHS *Bulletin* story is illustrated with hard-to-get locomotive photos.

Other items in this well-edited *Bulletin* include: "Railway Equipment up the River Minnesota 1861-1869," by Walter F. Becker, with photos and rosters of the lines in the area; "Moguls or Ten-wheelers?," by Stewart Graham; and "Chicago, Burlington & Quincy R.R., Chicago Terminals," by A. W. Newton.

THE SOUTH WESTERN RAILWAY, by Hamilton Ellis, George Allen and Unwin, London, Eng. (Distributed in the U.S. by The MacMillan Co., 60 5th Ave., New York), 265 pages, $6.75.

This account of the oldest British main-line railway, stretching between London and Plymouth and into North Cornwall (in Wales), which the author fondly describes as a "lovely line," should appeal to North American as well as English railfans.

Its mechanical history is presented with pride (it was the pioneer of automatic signalling), along with elaborate details about rolling stock. There are references to distinguished trains such as the *Royal Ascot*, which served the horsey set in Edwardian days, and many colorful anecdotes are scattered throughout. There is one that tells how the young Queen Victoria once defied Parliament by "submitting her Royal Person to the perils of the rail, with the Heir Apparent."

The book is illustrated with excellent photographs of rolling stock and terminals. Power classifications, personnel, etc., add to its importance as a valuable reference work.

RAIL ODDITIES, Association of American Railroads, Transportation Bldg., Washington, D. C., 44 pages, Free.

Curious items about railroading in the United States over the past hundred years or more. Illustrated.

THE EMPIRE THAT MISSOURI PACIFIC SERVES, Public Relations Dept., Missouri Pacific Lines, 1400 Missouri Pacific Bldg., St. Louis, Mo., 350 pages. Illustrated. $1.

A narrative outline of the development of the area served by this 10,000-mile system. MoPac's president, P. J. Neff, explains in a foreword that decision to publish the book was prompted by public interest in "name towns." The MP embraces eleven states, all rich in the history of an expanding nation. The reasons for naming such towns as Tallulah and Triumph, La., Knobnoster, Mo., and many others add a lively touch.

Distribution is being made to public libraries, high schools, and colleges in the on-line towns.

VOCATIONAL AND PROFESSIONAL MONOGRAPHS, The American Railway Industry, No. 43, by Carlton J. Corliss, Bellman Publishing Co., Cambridge, Mass., 26 pages, $1.

A progress report on the industry, from early development to the present, including classes of railroads, ownership, and individual organizations. Space is devoted to the railroad worker, his or her qualifications, and opportunities for advancement.

AN OLD RAILROAD TOWN, (words and music) by Harry D. Deegan, 4501 19th Ave., S., St. Petersburgh, Fla. 60 cents.

The author has been railroading since 1910, and has appeared on television and radio programs. ●

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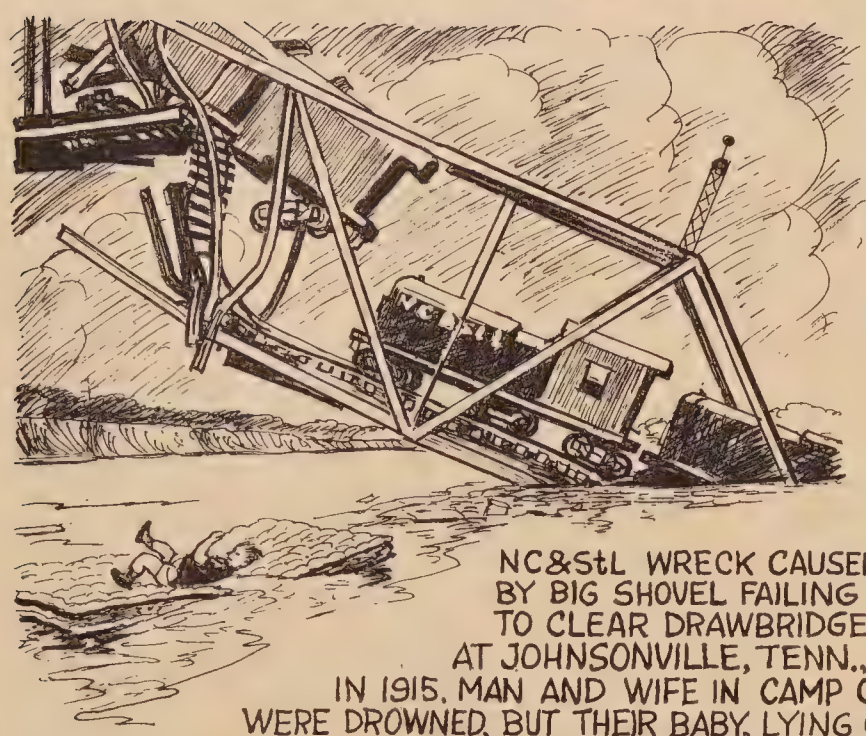
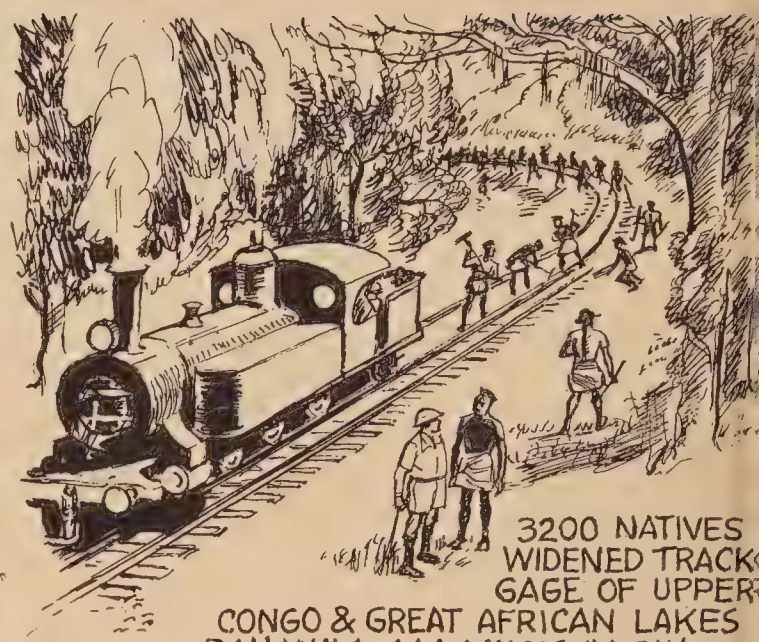
Along the Iron Pike

by Joe Easley

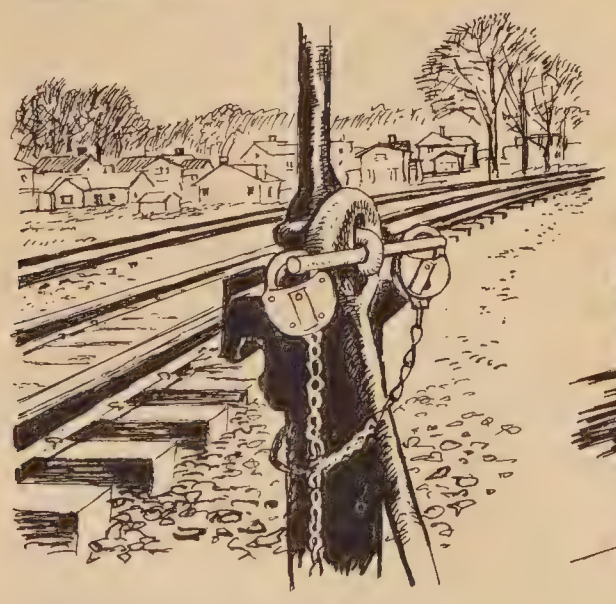


NC&StL WRECK CAUSED BY BIG SHOVEL FAILING TO CLEAR DRAWBRIDGE AT JOHNSONVILLE, TENN., IN 1915. MAN AND WIFE IN CAMP CAR WERE DROWNED, BUT THEIR BABY, LYING ON A MATTRESS, FLOATED TO SAFETY.
(NC&StL Ry. Bulletin)

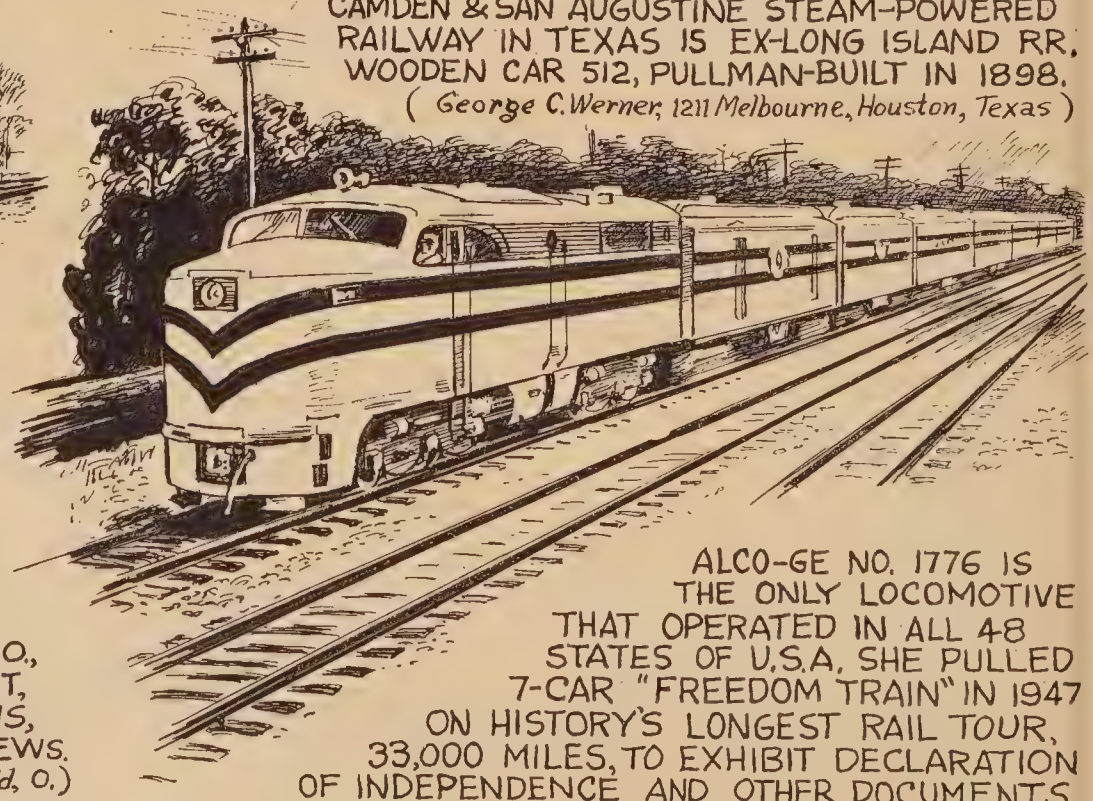


3200 NATIVES WIDENED TRACK GAGE OF UPPER CONGO & GREAT AFRICAN LAKES RAILWAY--444 MILES IN SIX DAYS!--TO PERMIT TRAFFIC INTERCHANGE WITH OTHER ROADS.
(Maurice Peacock, Jr.)

ONLY PASSENGER EQUIPMENT ON 7-MILE MOSCOW, CAMDEN & SAN AUGUSTINE STEAM-POWERED RAILWAY IN TEXAS IS EX-LONG ISLAND RR. WOODEN CAR 512, PULLMAN-BUILT IN 1898.
(George C. Werner, 1211 Melbourne, Houston, Texas)



UNIQUE SWITCH AT SPRINGFIELD, O., HAS TWO LOCKS, ONE FOR DETROIT, TOLEDO & IRONTON TRAIN CREWS, THE OTHER FOR PENNSY TRAIN CREWS.
(E.M. Neff, 1515 Maryland Ave., Springfield, O.)



ALCO-GE NO. 1776 IS THE ONLY LOCOMOTIVE THAT OPERATED IN ALL 48 STATES OF U.S.A. SHE PULLED 7-CAR "FREEDOM TRAIN" IN 1947 ON HISTORY'S LONGEST RAIL TOUR, 33,000 MILES, TO EXHIBIT DECLARATION OF INDEPENDENCE AND OTHER DOCUMENTS.

RAILROAD HOBBY CLUB

by Sy Reich

THE SIXTH EDITION of *Bibliography of Railroad Literature,* a 64-page illustrated booklet printed on good paper, has just been issued by the Association of American Railroads. Its chapter titles give you a good idea of its scope: Juvenile Books, General Literature, Model Railroading, Railroad Statistics, Railroad and Travel Periodicals, Company Periodicals, and Publishers' Addresses, plus an index.

Sy Reich

"Those who wish to increase their knowledge of railroads and railroad travel," says the foreword, "will find listed herein many of the best books and stories that have been written on these fascinating subjects. . . . Only books and booklets now in print or likely to be found in libraries. . . . Periodicals relating to railroads also are included. . . . Teachers as well as students will find the lists useful. . . ."

Of course, *Railroad Magazine* is listed and blurbed. So are two illustrated true-story books that its editor, Freeman Hubbard, wrote for youngsters. One is *The Roundhouse Cat (and Other Railroad Animals)*, described thus: "All children are interested in both animals and railroading. This book combines both subjects in gay, informative stories based on actual incidents."

The other one is *The Train That Never Came Back (and Other Railroad Stories)*, categorized by the AAR as follows: "All the thrill and drama of American railroading are contained in these amazing incidents—a train that never came back, Casey Jones's last ride, the true story of John Henry, the phantom brakeman of Raton Pass, and others."

Both books were published by Whittlesey House, 330 W. 42nd St., New York City. Material for one of the tales in *The Train That Never Came Back* was supplied to Mr. Hubbard by an AAR vice president, Robert S. Henry, who himself authored two adult books listed in the Bibliography. Mr. Henry's own books include *This Fascinating Railroad Business* and *Trains,* both of them classics in their field and both published by Bobbs-Merrill Co., Inc., Indianapolis, Ind.

A copy of the *Bibliography* will be sent free to anyone by the Association of American Railroads, Transportation Bldg., Washington 6, D. C.

FLAGSTOPS

EXCURSIONS Illini Railroad Club, (M. R. Klebolt, pres., 305 S. Elm St., Champaign, Ill.) sponsors one-day steam fantrip June 30 over Nickel Plate, Chicago to Ft. Wayne. Leave LaSalle St. Sta. 9:30 a.m., CST. Pick up other passengers at 63rd St. and Hammond-Valparaiso. Photo stops and movie runs. Round trip $10, incl. lunch.

Pennsy MU fantrip Aug. 4, sponsored by ERA, New York Division. Leave Jersey City (Exchange Pl.) and operate on many freight-only electric lines, incl. Passaic & Harismus, Amboy, Jamesburg, Trenton, Phila. & Thorndale, Atglen & Susq., and Columbia branches to Harrisburg, other branches to Lemoyne (Enola) and Perryville, and main line and Phila. Overhead Frt. Bypass to New York, 420 miles; many stops. Contact Sy Reich, trip chairman, ERA headquarters, 145 Greenwich St., New York City.

A "Hawaiian Paradise Cruise" from San Francisco on a luxury liner Oct. 11-Nov. 2 will be sponsored by Pacific Coast Chapter, Railway & Locomotive Historical Society. Visit three islands, ride a Hawaiian railroad. Fare, $560.00 up. Contact Arthur Lloyd, 3533 Pasadena Drive, San Mateo, Calif.

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Pacific Great Eastern Boosters plan trip July 5, North Vancouver to Prince George. Write Ernie Plant (pres.), Box 40, Horseshoe Bay, B. C., Canada.

Next year, Branford Electric Ry. Ass'n will sponsor a 2½-day Memorial Day week-end excursion on W. Va. short lines. Trips over logging and coal roads using Shays, etc. Total week-end fare, about $15, plus $15 for special chartered bus from and back to New York. Free lunches. Limit, 250 people. Better make reservations now, sending $1 deposit to Vitaly V. Uzoff, BERA public relations manager, 314 Latham Rd., Mineola, N. Y.

Special exhibition of Currier & Ives prints, including many railroad subjects, is being held all of this summer at the Museum of the City of New York, 5th Ave. and 104th Street, New York. Admission free.

Annual convention of National Railway Historical Society has been set for Labor Day week-end at Roanoke, Va.

Readers interested in exchanging pix and information with French railfans should address *Association Francaise des Amis des Chemins de Fer* at Gare de l'Est, Place de Strasbourg, Paris X, France.

As previously announced, the Railroad Enthusiasts are sponsoring a chartered plane trip to Europe, leaving New York on Sept. 6, returning from Paris on Sept. 28. Contact Arthur T. Knowles, Box 1943, New York City.

Great Northern baked hundreds of small birthday cakes and gave one to each passenger in *Empire Builder* dining and coffee-shop cars on the tenth anniversary of this Chicago-Seattle-Portland train's streamlined version.

To assure itself an adequate supply of high-quality ballast, the Chicago & North Western has bought a "small mountain" of pink quartzite, the hardest and most durable of all common rock, at Rock Springs, Wis. The site is believed to hold enough quartzite for 30,000,000 cubic yards of ballast—enough to meet the railway's needs for many years.

One day when Charles H. Markham, 13th president of the Illinois Central, had just returned to Chicago from a trip with his young secretary, Ernest Carr, they saw a bewildered old lady with a heavy suitcase on the station platform, looking in vain for a redcap.

"Won't you let me help with your bag?" asked Mr. Markham.

"Thank you very much, sir," the lady said to Mr. Markham. "Do you work for this railroad?"

"Yes, I do."

"Well, if you will tell me your name I will write a nice letter to the president and tell him how helpful you have been."

Mr. Markham tipped his hat. "You don't have to do that, ma'am. Any Illinois Central man would have been glad to help you."

ON THE WEST COAST

WEST Coast railfan news is covered in each issue of *The Ferroequinologist*, edited by Jack Gibson, 24 Pleasant St., Los Gatos, Calif., and published by the Central Coast Railway Club, Inc., of San Jose. The following trips are listed in this paper.

CENTRAL COAST, CALIFORNIA

June 15-16—PCC R&LHS—Western Pacific and Quincy Railroad, with steam on WP to Oroville.
July 7—Nor Cal—Monterey.
July 13-20—Western Pacific and all railfan groups—Trip over Pacific Great Eastern with special train from bay area.
July 28—Central Coast—4-8-8-2 run from San Jose to Tracy and return.
Aug. 11—Joint picnic train to Big Trees.
Aug. 31, Sept. 1-2—Central Coast—Oregon, California & Eastern to Bly, Oregon, and Weyerhaeuser Timber Co.
Sept. 22—PCC R&LHS—SP and Amador Central.
Oct. 6—Central Coast—Steam returns to the Sierra Railroad.
Oct. 20—BAERA—SF Muny Ry.
Nov. 2-3—Cal-Nevada—Farewell steam trip to Reno. Canceled if no steam available.
Dec. 31—Central Coast—New Years Eve trip to Monterey.

Central Coast Railway Club—P.O. Box 783, San Jose, Calif.
California-Nevada Railroad Historical Society—Arthur Lloyd Jr., 974 Pleasant Hill Road, Redwood City, Calif.
Pacific Coast Chapter, Railway & Locomotive Historical Society—J. E. Turner, 1739 Berkeley Way, Berkeley, Calif.
Bay Area Electric Railroad Assn.—Addison Laflin, 2119 Marin Ave., Berkeley 7, Calif.
Northern California Railroad Club — Edward Bohlen, 1824 Belburn Dr. Belmont, Calif.

SOUTHERN CALIFORNIA

June 23—PRS—Summit Cajon Pass via AT&SF with barbecue dinner.
Oct. 14-27—PRS—Virginia Vacation. Via AT&SF, NYC, Southern, and Norfolk & Western.

Pacific Railroad Society—Box 5279, Metropolitan Station, Los Angeles 55, Calif.
Southern California Chapter, Railway & Locomotive Historical Society—Donald Duke, 2304 Melville, San Marino 9, Calif.
Southern California Division Electric Railroaders' Association, P.O. Box 787, Pomona, Calif.
Railway Historical Society of San Diego—7861 Normal Ave., La Mesa, Calif.

STEAM POWER

THIS TIP to steam locomotive enthusiasts comes, strangely enough, from E. J. Quinby, founder of the Electric Railroaders Ass'n: "Visit Grafton, W. Va., a Baltimore & Ohio junction point in the coal region. Here you can see a score of steamers ranging from switchers to huge Mallets all hot, all active. Here you smell smoke and lubricating oil and enjoy the old familiar chuff and puff of hee man engines.

"The trip between Grafton and Cincinnati on a fast R&O limited is a thriller. Through the mountains region of West Virginia your train winds its crooked way into and out of two dozen tunnels, many on sharp curves, some even on reverse curves. Most of the tunnels, were built around 1888. Postpone your good meal on the B&O diner until after dark so as not to miss the full show. Take along a compass and watch the needle go 'round and 'round! As you enter one of those crooked tunnels, guess what direction you'll be headed when you come out!"

Remark from Fred Steck, Rte. 1, Reese, Mich.: "For several weeks recently the Grand Trunk Western used a steamer on train 38, possibly the shortest steam passenger train in U.S.A."

Branford Steam Railroad, owned and operated by New Haven Trap Rock Co., is using two 0-4-0 saddle-tank engines for switching at yard tracks and quarry, North Branford, Conn., while the New Haven Railroad has a 2-8-0 steamer, No. 3016, stored at its Cedar Hill yards, New Haven, reports J. C. Burchard, Box 293, East Haven, Conn.

Canadian roads are still using much steam power. At Quebec city, for example, of the 34 passenger trains incoming and outgoing, five are RDC's, sometimes only four use diesels, and the rest are steam-powered, according to Paul St. Germain, 885 Moncton St., Quebec, Canada, who lists the following steamers as active in his area:

Canadian Pacific: (4-6-2) Pacific: Class G-5-b—1229, 1231, G-1-s—2210; G-1-t—2228; G-3-g—2402, 2403, 2405, 2407, 2413, 2415, 2416; G-3-j—2472; G-2-q—2508; G-2-r—2511; G-2-s—2537, 2556, 2588; G-2-t—2604; G-2-u—2663.
(4-6-4) Hudson: H-1-a—2804; H-1-b—2811, 2813, 2814; H-1-c—2820, 2821, 2823, 2824, 2825, 2826; H-1-d—2858, 2859.
Quebec Central: (4-4-4) Jubillee: F-2-a—3003, 3004.
Ten-wheeler (4-6-0): D-10-e—802; D-10-f—847; D-10-g—876, 879, 880, 890, 893; D-10-h—1025, 1059; D-10-k—1073, 1080.
Consolidation (2-8-0): M-4-c—3417.
Canadian National: Pacific (4-6-2): J-3-a—5037; J-3-b—5049, 5055, 5061, 5068, 5071, 5073, 5075-5077; J-4-b—5086; J-4-d—5107; J-4-e—5135, 5144; J-7-a—5255; J-7-b—5294; K-2-b—5550; K-3-a—5569; K-3-b—5596; K-3-d—5604. Mountain (4-8-2): U-1-f—6063, 6064.
Northern (4-8-4): U-2-a—6101, U-2-d—6164; U-2-e—6176; U-2-g—6202.

Switchers (0-6-0): O-16-a—7350; (0-8-0)—P-5-c 8320; P-5-f—8368; P-5-h—8399.
Consolidation (2-8-0): N-3-b—2348; N-3-c—2357; N-3-d—2373; N-1-c—2453. In addition, many steamers operated into Quebec on freights.

Jack Leslie, Box 66, Revelstoke, B. C., Canada, tells us that the following CPR steamers operate in his area: 4-6-0: 911, 918, 923, 962, 985; 2-8-2: 5256, 2-10-0: 5758.

Montreal has several large roundhouses and engine terminals where much steam action can be found. The CPR has two main engine facilities: The Glen, at which passenger engines are serviced, and St. Luc Yard roundhouse, where freight haulers are cared for. CNR, which runs many more steam engines than CPR, has their main facilities at Turquot. However, both roads have large orders for diesels, so you photographers had better hurry to get the spirit of steam operation.

Another stronghold for steam power is the Pennsylvania Railroad. (See roster in this issue.) Latest available report shows distribution of steam power on the Pennsy as follows:

NEW YORK REGION: One K-4sa, 10 K-4s, all on the New York & Long Branch; five L-1s in stationary steam service in Sunnyside yards.
PHILADELPHIA REGION: 15 L-1s, 11 H-9s, 8 K-4s, 10 B-6sb, 7 I-1sa, 4 H-10s. Most active steam operates out of Camden (P-RSL) and Enola.
CHESAPEAKE REGION: One B-6sb stored at Wilmington.
NORTHERN REGION: 16 L-1s, 9 H-9s, 51 I-1sa, one B-6sb, 5 M-1b, 2 M-1, 8 H-10s.
PITTSBURGH REGION: 26 J-1, 29 J-1a, 2 K-4s, 6 L-1s, 13 M-1, 5 B-6sb, one B-8a, 4 H-9s, 9 H-10s, 132 I-1sa, one M-1a, 25 M-1b. Steam operates out of East Altoona, and Pitcairn.
LAKE REGION: One L-1s, 2 H-9s, 7 H-10s.
BUCKEYE REGION: 39 J-1, 31 J-1a, 4 K-4s, 5 H-10s, 23 I-1sa.
NORTHWESTERN REGION: Two H-9s, 6 H-10s.
SOUTHWESTERN REGION: Two H-9s, 8 H-10s.
ALTOONA WORKS: One B-6sb, 2 H-9s.

PHOTO PERMITS

HOW can I get a permit to take photos on railroad property? This question is often asked. The answer, in so far as the Southern Pacific is concerned, may be found in the following article from *The Inside Track*, a monthly "house organ" for SP employes:

Perhaps as a hangover from the war years, when anyone shooting off his camera around an industrial plant was likely to get shot right back with the real thing, some SP'ers still think we put up scarecrows to shoo photographers off our properties. Actually, we try to accommodate them as much as possible.
Why bother? Because, although only a small percentage of these photographers are professionals who might get SP publicity in newspapers or magazines, the others (most of them railfans), whose minor masterpieces wind up in the family album, are great good friends of the railroad. And when we need their help, they have a way of swinging public opinion and legislation our way.
So what's the routine if someone asks you what are chances of his slipping into the Englewood yards for a dramatic shot of a reefer going over the crest? That's your cue to refer him to your Division Superintendent or to your closest Public Relations office . . . San Francisco, Los Angeles or Portland. (Or Houston on Texas and Louisiana Lines.)
The Super or PR office will, in turn, ship the would-be photographer a waiver, Form CS-2617, to sign, which protects us in case he should be injured while he's scrambling around our environs.
If he's under 21, his parents must also sign a release, and if he's under 19, his dad or legal guardian must come along on the expedition. This waiver, properly signed, generally wangles him a photo permit from our Operating Dept., and our blessing.
For the "pro" photographer who is working on a specific assignment the PR staff sometimes goes to such lengths as tape-measuring a 4,745-foot piggyback freight train so as to pose it just right on the Horseshoe Curve near San Luis Obispo. This paid off in that handsome color shot of said train in January 28 TIME mag, plus 3 SP mentions in the text and a "thank you" in the Publisher's letter up front for our help in setting up the shots.

RAILROADIANA

ITEMS sent to this department are printed free, in good faith, but without guarantee. Write plainly. No entry longer than 28 words will be accepted—except those dealing with back numbers of this magazine. Address Sy Reich, *Railroad Magazine*, 205 E. 42nd Street, New York 17, N. Y.

Use these abbreviations: *cond.*, condition; *ea.* each, *elec.*, electricity; *env.*, envelope; *eqmt.*, equipment; *esp.*, especially; *info.*, information; *n.g.*, narrow-gage; *negs.*, *negative; p.c.*, postcard; *pref.*, preferably; *tr.*, train, *tkts.*, tickets, *rr.*, railroad.

The term *tts.*, refers to public timetables, unless preceded by *emp.*, when it means employe's (operating) timetables.

Anyone desiring railfan pen pals is entitled to a listing here. State what phases of railroading interest you most and from whom you want to hear.

SWITCH LIST

BOB ANDERSON, 715, Pabst St., Ironwood, Mich., sells oil-burning hand lanterns $5-7 ea. plus postage. Wants pix, negs. DM—IR 2-8-8-2's.

CARL ACHMANN, 4030 N. Plainfield Ave., Chicago, Ill., sells, trades NYC emp. tts. 10c ea., 3 for 25c. Wants NP loco spec. bk. '41 or later.

BOB BEDNARIK, 1318 11th Ave., Notrona, Pa., wants any size steam pix or negs. P&S, H&BT, LGV, B&LE.

GUIDO BLOBEL, 3240 N. 15th St., Milwaukee, Wis., will sell 295 copies Railroad Magazine June '31-Dec. '55, excellent cond., $25 plus express. Write first.

ELMER BRASWELL, age 39, 1581 Melrose Dr., S.W., Atlanta, Ga., wants size 120 negs. elec. lines. Swaps Ga. Power Co. prix. Correspondence invited.

PAT BRENNAN, 50 Agnola St., Yonkers, N. Y., will sell Loco Catechism, Ry. Telegraph, Railroads at War, other books, for best offer.

B. T. BROWN, Box 204, Krum, Texas, wants miniature telegraph sounder, other odd, antique Morse instruments. Has few duplicates to sell or trade.

RAY BROWN, RFD 1, Middletown, N. Y., will buy Loco. Dictionary and Cyclopedia '06, '09, '12, '16, '22, '25; also Baldwin Locomotives Jan., '24.

S. J. BULSIEWICZ, 811 Tunnel Rd., Asheville, N. C., will sell 67 issues Railroad Magazine '36-'52, 47 issues Trains '47-'53. List for 3c stamp. Will buy CERA Bulletin 44.

CHAS. CHALOUX, 677 E. 231 St., New York, N. Y., wants trolley pix NY City, LI, Westchester before 1937.

T. S. CHARRNEY, 3737 Armitage Ave., Chicago, Ill., author writing book, wants to borrow pix Ill. rrs. 1855-'60, depots, property, equip. Credit line for use.

PLAY GUITAR IN 7 DAYS OR GET MONEY BACK
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In this introductory offer you get TOP RADIO GUITARIST ED SALE'S famous 66 page secret system worth $2.75 which positively teaches you to play a beautiful song the first day and any song by ear or note in seven days! Contains 52 photos. 87 finger placing charts, etc. Shows how to tune, keep time, build chords, bass runs, dance chords, swing, etc., plus 110 popular and western songs, words and music; a $1.00 Chord Finder of all the chords used in popular music; a $2.00 Guitarist Book of Knowledge—Encyclopedia of Guitar and Show Business Guide TOTAL VALUE $5.75—ALL for only $2.98. SEND NO MONEY: Just name and address, pay postman $2.98 plus C.O.D. postage. (Or send $3.00 with order and I pay postage.) Same Guarantee. (Sorry, no C.O.D. to A.P.O., F.P.O. or outside U. S. A. Canada and foreign $3.00 with order.) Rush your order now.
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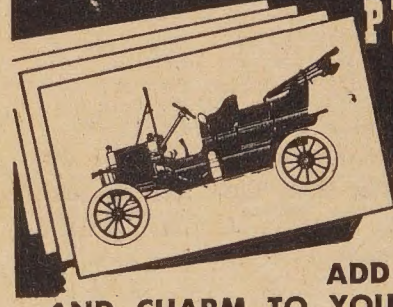
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C. LOCOMOTIVES
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QUALITY BAZAAR
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Enclose $..... ( ) Check, ( ) M.O. you pay postage. Please send me: ( ) A, ( ) B, ( ) C,
(Check numbers desired)
NAME.....
ADDRESS.....
CITY..... STATE.....

T. COTT, The Shrubbery, Kilcock Co. Kildare, Ireland, wants many issues of Railroad Magazine, Trains, Ry. Progress, Ry. Digest, European Rys., Modern RR's; also rr. postcard pix. Write.

JOHN DAVIS, Locke Mills, Maine, buys p.c. and size 616 GT steam negs.; also various issues of Railroad Magazine. Send for details.

HOWELL DAY, 300 Vail Ave., Dunellen, N. J., wants Railroad Magazine, Dec. '29, July '30, Mar. '31.

E. H. DELKER, 2730 St. Joseph Blvd., Montreal, Canada, has over 50,000 tts. for sale, U. S. Canadian, Mexico, overseas; incl. aband. and merged rds. State wants or send 10c coin for list.

HARRY ENTLER, 6412 S. Aberdeen St., Chicago, Ill., will sell batch of Railroad Magazines, Trains, tts. (Editor's note: He failed to say how many, which issues, or cond.) Texas fan, he lost your address.

JAMES ERWIN, 3666 Locke Lane, Houston, Tex., will buy St. Ry. Journal, other traction mags. Wants info. on Ohio and Texas interurbans.

ED GIBBS, 729-A Macon St., Brooklyn, N. Y., trades color slides and negs. of ships and elec. rys.

LEX GLASGOW, Box 6267, East Manufactured Brand, Memphis, Tenn., wants one copy Off. Guide '16-'18.

W. P. GRANT, 1420 Madison, Oxford, Miss., will sell '25-'29 tts., 1892-'93 tr. ords., best offer. List for 3c stamp.

PAUL HARTLINE, 1340 Butter Lane, Reading, Pa., sells and trades 2x2 slides or 3x5 pix Rdg., Pennsy, SP, C&NW, elec. lines; 10c ea. No list. Answers all mail.

S. C. HEAL, 2410 Queens, West Vancouver, B. C., Canada, sells 3x4½ pix steam, diesel, CPR, CNR, PGE, short lines, logging, mining; rds., 6 for $1. List.

C. K. JOHNSON, Age 12, 22 Crosshill Rd., W. Hartford, Conn., wants to correspond with any Loco engineer.

R. W. JENNINGS, 13 Cliff Ave., Scituate, Mass., sells size 116 diesel negs., NH, B&M, NYC, MeC., on approval.

H. R. JOHANNESSEN, 9111 Sudbury Rd., Silver Springs, Md., will sell Railroad Magazine '36-'38, '40, good cond., $2.60 per yr. Also sell Model Railroader.

RONALD JOHNSON, 3051 Medill Ave., Chicago, Ill., will buy color slides Milw., IC, C&NW, Alton, C&EI, Erie, NYC, Pennsy, CRI&P; also elec. color slides CSL, C&WT.

ARNOLD JOSEPH, 2512 Tratman Ave., New York, N. Y., sells back issues Railroad Magazine, model mags., Bald. Locos., good cond., unclipped. List for stamped env.

TIM KAUFMAN, 534 SE 70th, Portland, Ore., buys, sells pix, negs. Size 120 to 4x5 of UP steam and diesels.

E. B. KILLE, 8215 2nd Ave., Inglewood, Calif., sells size 116 negs., many rds. List for 3c stamp.

CARITA KLEMM, 806 N. Main, Bloomington, Ill., will sell tts., good cond.; rr books. List 10c.

BOB LAW, Trailer City, Warrensburg, Missouri, trades tr. ords. WAB, I&GN, MKT for similarly dated ones. Wants to hear from other collectors.

BOB LEMASSENA, 1795 S. Sheridan Blvd., Denver, Colo., wants Baldwin Locos. bag., Baldwin Record of Recent Construction No. 65, Off. Ry. Guide, Ry. Guide, Ry. Equip. Register, Alco catalogs. Send for details.

JACK LESLIE, Box 66, Revelstoke, B. C., Canada, buys size 116 negs., CPR steam. Wants to correspond with teen-age railfans.

BOB LOWRY, 205 Wayland Rd., Paradise, Calif., sells color p.c. Northern Elec. tr. at station about 1910, 10c ea., 3 for 25c, plus stamped env.

S. J. MALKIN, 126 Walnut St., Bloomfield, N. J., sells emp. tts., tts., tkts., old documents. List for 3c stamp.

DON McCLAIN, 709 Main St, Cincinnati, O., will sell 160 issues Railroad Magazine 1906-'19; also Off. Guides, Trains, Mdl. Builder. List for stamped env.

M. D. MEYER, 238 W. Water St., Brillion, Wis., sells set pix size 616 Scranton, LVT, PTC, West Penn., Phila. & Wilm., Pitts. Ry., etc. $1. (Editor asks, How many in set?)

AL MILLER, 1836 Gardena Ave., Glendale, Calif., sells 35 mm. color slides SP, UP, B&O, N&W, PRR. List free. Buys good slides of Utah Ry.

MAX MILLER, Box 315, College Corner, O., sells size 116 steam pix on approval, 18 for $1, 40 for $2.

JOS. M'MAHON, 15 Adrian Ave., New York, N. Y., sells stt., emp. tts., Eastern rrs., many pre-war. List for 3c stamp. Offi. Guides '46-'48, $1.25.

J. F. MONHOFF, 524 E. Marigold St., Altadena, Calif., sells size 616 engine pix Western short lines and logging rds., PE, SP, SNCF, German rrs.

R. T. NEWMAN, 407 Connelly St., Paris, Ill., will sell 500 ry. emp. magazines '53-'56, 80 diesel color cards. Lot $25 fob.

R. V. NIXON, 1501 S. 16th St. W., Missoula, Mont. offers size 616 pix of 115 different types NP steam with info., $12

F. A. NORTON, Box 2244, Cumberland, Md., buys pix or negs. circus and carnival wrecks, foreign circuis trains.

HAROLD OLSON, Allen, Minn., wants to hear from oldtime telegraph operators.

STEVE PATTERSON, 1309 Magnolia Ave., Kingsport, Tenn., trades tr. ords. of Southern rrs. for those of other rare lines.

Mrs. DICK POWELL, Box 372, Dolores, Colo., sells original n.g. spikes used on RGS at Lizard Head Pass, Colo., 1892, $1 ea.

FRANK PUCCI, 1635 N. Spaulding, Chicago, Ill., wants Railroad Magazine '35-'45; also assorted issues '46-'55. Write for details.

JIM RAMSEY, 1028 Philpotts Td., Norfolk, Va., will swap recordings, standard tape, either speed, talk and sounds. Write first.

HENRY RENARD, 899 D Blvd., New Milford, N. J., buys pix, 35 mm. slides of San Francisco trolleys.

B. P. RODKE, 4400 Springlake Dr., Oklahoma City, Okla., will sell Railroad Magazine '46-'57, excellent cond. Send for list.

BOB RYDLAND, age 16, 10702 19th Ave., SW, Seattle, Wash., wants pix, info, rosters of city streetcar systems.

JOE SAITTA, 114-40 209th St., Cambria Heights, L. I., N. Y., buys, trades PCC pix and slides, all lines. Answers all mail.

VAUGHAN SANDERS, 15617 Stevens Ave., Bellflower, Calif., trades emp. tts. Send for list.

DENNIS SCHMIDT, 714 W. Lexington Ave., Elkhart, Ind., will buy Trains albums 15 and 18; also Trains mag. Aug., '48. Write first.

J. SCHOENBEIN, 320 Hess Ave., Erie, Pa., sells 8 mm. NKP color movies. List, prices, sample 50c.

J. M. SECOR, 2792 Aluingroom Ct., Oakland, Calif., buys, trades steam, elec. tts.

F. M. SEIFFERT, Jr., Box 21, Orange, N. J., offers free 5x7 photo on request for his steam or juice lists; either list and 2 pix 25c; both lists and 4 pix 45c.

M. K. SMART, R. D. No. 2, Springs Mills, Pa., buys or trades loco. diagram bks. NH, B&M, P&WV, D&H, DL&W, B&O, ACL, Sou., SAL, Clinchfield.

DARROL STANLEY, 43 Calvert, Piedmont, Calif., wants elec. line negs. of eqmt. blt. before '45. State rr., description, price. (Editor asks, What size negs.?)

KEN STEPHANISHIN, Box 302, Revelstoke, B. C., Canada, buys CPR negs. size 616 and tr. ords. Wants to hear from CPR fans.

L. H. STODIECK, 5572 NE Sandycrest Terr., Portland, Ore., will buy 35 mm. slides Minneapolis-St. Paul trolleys, Soo trs. Send list.

DAVE STRAIGHT, 4581 Upham St., Wheat Ridge, Colo., sells pix D&RGW steam and diesel, C&S, UP steam; wants T&P. List for 3c stamp.

TONY TALBOTT, 2905 Anniss St., Philadelphia, Pa., will sell Pennsy caboose marker light, $10.

RALSTON TAYLOR, University of the South, Sewanee, Tenn., sells size 120 trolley pix ITS, CSL, St. Louis, Dallas, CNS, Milw., CA&E, PST, DCT. List sample 10c.

J. D. THOMPSON, 525 S. Spring St., Falls Church, Va., buys pix RI and Katy Camelbacks. Write first.

DON TUSTIN, 433 Minor Ave., San Jose, Ca
Wants pix SP, WP, Santa Fe, UP steam locos; a
emp. tts. any line. Send list.

TOM UNDERWOOD, Jr., 1530 Rhode Island, Av
NE., Washington, D. C., buys British Ry. publi
tions 1900-'22, incl. tts., p.c.s, calendars, post
also any books of or on period. Write first.

L. D. WEBSTER, 811 N. Green Ave., Lake Wor
Fla., has Railroad Magazines, 1954 thru '56 (Edi
asks, what cond.?) and emp. tts. to sell or sw
for dime novels.

E. WHITE, 4926 Cordova Bay Rd., RR 4, Victor
B. C., Canada, trades or sells size 616 pix, 35m
and 2¼x2¼ color slides CPR, CNR, Van c. Isla
logging rds. Wants size 5x7 pix SP 4167, 36
NYC 1572.

MARTIN WILSON, 3823 8th Ave., Tampa, Fla.,
polio victim, wants rr. books, mags. Send offer

JIM WINDMEIER, 2358 N. Milwaukee Av
Chicago, Ill., wants color slides Alton, a
GM&O steam power, C&WT and CSL trolleys
size 2x2.

H. W. ZENGER, 148 Hunter St., Glens Fal
N. Y., buys, sells, swaps rail books. List free.

MODEL TRADING POST

H. R. ASHLEY, 50 Saratoga Ave., Yonkers, N.
will sell std.-gage Lionel NYC 42 loco,
cars, track, switches, accessories, excellent con

CLINT BROWNING, Box 48, Broken Bow, Okl
has 704 page loose-leaf stamp album, with 1,1
stamps, to sell or trade for 0-27 gage equip.

R. T. CHEW III, 1457 Englewood St. St. Pa
Minn., will sell emp. tts., passes, station boob
or trade for HO gage equip. List for stamped en

PAUL CONTI, 5524 12th Ave., Brooklyn, N. Y
will buy Lionel pre-war 5344 Hudson, 8976 switche
box, tank, hopper cars, caboose. State cond.

LARRY DIXON, 1489 Richmond St., RR 5, Londo
Ont., Canada, will sell to Canadian two HO ga
diesels, 3 oldtime locos, 35 cars.

R. FIELD, 107 Stanyan, San Francisco, Calif., w
sell Lionel 313 bridge, rare coal loader. Write f
prices.

M. FRANKEL, Box 273, Terre Haute, Ind., w
sell Lionel O gage locos 2035, 2065WS, 2-1615,
display models, fair price. List for 3c stamp.

J. A. HORTON, 4115 Francis Ave., Cincinnati, C
will buy Ives 1122 loco and tender, also early Iv
wind-up trains, for cash or trade current O ga
rolling stock. Answers all replies.

R. E. JAMES-ROBERTSON, 67 Groverland Rd
Beckenham, Kent, England, will take 35 mm. slid
of everything in London area, esp. rr. subjects f
cash or in exchange for U.S. HO gage equip.

C. KOWAL, 2300 W. 21st St., Chicago, Ill., wi
buy old toy elec. and clockwork trs., cast iro
toys. State cond.

BILL MONTGOMERY, 558 E. Alcott Ct., Phil
delphia, Pa., will trade Rdg. tts., issues of Motiv
Power, other books, for HO gage equipment. Li
for 3c stamp.

O. A. PARRIS, 1019 13th St., Bremerton, Wash
wants Nason 00 gage Rdg. 2-8-0 kit, Pennsy 4-4-
kit. Will trade Scalecraft SP 4-6-2.

WALTER POPEK, 15 Main St., Garfield, N. J
buys old toy trolley cars, locos, O, I, II, III, I
gages, or trades old or new O, S, HO, TT item

CY REGENSBURGER 2145 N. 3rd St., Philadelphia
Pa., wants 00 gage 2-rail locos, cars, track
switches, good cond. Answers all mail.

DON ROBBINS, 801 Circle Dr., Bellaire, Tex
will sell Lionel and AF cars, locos, access., catalog
or trades for std.-gage and old O gage equip
Also wants Railroad Magazine, model mags.

G. M. SAUDER, 5641 Peach St., Erie, Pa., sellin
many issues Railroad Magazine, Trains, model mag
Send list of your needs.

EDW. TURNIERS, Box 52, Five Corners Sta., Jerse
City, N. J., disposing of big collection rr. book
lamps, std.-gage Lionel trains, etc. Info. for stampe
env.

CARL WIELAND, Rehoboth Bea., Del., will sel
AF equip. and real rr. items. List for stamped env

T. H. WOOD, 271 John St., Orillia, Ont., Canada
will sell portable HO gage layout, few cars, extra
mags., etc. List free.

Try This Automotive Miracle FREE! Now Get Up To

100,000 Miles Without A Single Major Repair!

IT'S TRUE! Now—without spending one single penny— you can start giving the very same car you are driving today up to 7 MORE GAS MILES PER GALLON . . . UP TO 6,000 MILES WITHOUT AN OIL-CHANGE . . . UP TO 100,000 MILES WITHOUT A SINGLE MAJOR REPAIR!

Yes—without buying one single complicated gadget—you can give your present car jackrabbit starts . . . blazing new power for those superhighways . . . smooth dependable power for stop-and-go driving . . . effortless cruising power for those pleasant parkways!

Now, thanks to a modern miracle of automotive science—you can actually drive completely around the world twice—yes, up to 60,000 miles—with one set of sparkplugs . . . drive up to 7 years without needing a ring-and-valve job . . . you can triple the life of your filters—yes, every vital part of your engine—your pistons . . . bearings . . . cylinders . . . can last years longer than you ever dreamed possible—the body of your car may actually wear out years ahead of your engine! Yes, without touching one single tool. you can actually save up to $200. $300 a year on gas, oil and engine repairs—and get those savings . . . get that thrilling new power and performance—for the full complete lifetime of the very same car you are driving today!

Sound impossible? Well, FACTS . . . THE SCIENTIFIC, DOCUMENTED FACTS, SPEAK LOUDER THAN ANY WORDS!

The Most Thrilling Driving Results Ever Achieved!

A 1940 Ford V-8 driven by Mr. Win Johns of Middlesex, N. J. was given every normal engine-wearing, fuel-eating test imaginable! Fender-to-fender driving in thick city traffic . . . roaring along wide open superhighways . . . repeated sudden spurts on the gas pedal . . . starting her up in below-zero weather! **Yet believe it or not, after 169,000 miles of every typical engine-wearing challenge experienced by car-owners — that 1940 Ford is still running like a charm . . . the sparkplugs have given full, hot, firing power 5½ times longer than similar plugs in other cars . . . the pistons, valves, cylinders and rings are still incredibly clean and performing like a charm—its engine has never had a single major repair —and automotive experts are astounded by the fantastic power and life of that engine!** More proof? The Farmers and Consumers milk delivery fleet of Morristown, N. J. attached this fabulous automotive device on 11 of their engine-wearing, door-to-door, stop-and-go delivery trucks. Results? The engines on those 11 trucks actually outlasted the ordinary trucks by 5½ times . . . never needed one single major repair!

You'll read many more thrilling case-records just like these elsewhere on this page! But right now you're going to discover how YOU can stop spending dollar after dollar on wasted gas, oil . . . on parts that break down—and do it without spending one single penny to prove it!

Why You Waste Dollar After Dollar on Gas, Oil, Repairs!

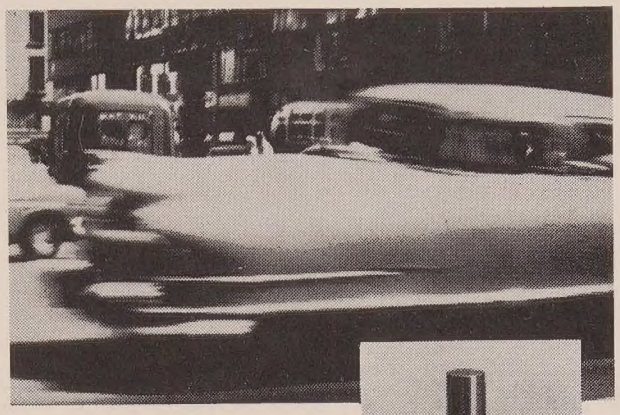
Do you know what causes the filth on your sparkplugs . . . what causes them to foul and set you up for a $10 bill for new plugs? Do you know what causes the sludge and dirt to form on your pistons—that sets you up for a $15 cleaning job? Do you know what causes the corrosion and holes in your valves—that sets you up for a $20 repair job?

Friends, the deadliest thief under the hood of your car . . . the thief that is robbing your engine of its normal life . . . the thief that is actually lifting dollar after dollar out of your pocket . . . is **POISONOUS ACID!** Yes, deadly engine-destroying **acid!** How does this poisonous engine-wrecking **acid** get into your car? Hold your breath, friends — the answer is: **YOU PUT IT THERE — EVERY TIME YOU START UP YOUR CAR!** That's right! It's a **PROVEN SCIENTIFIC FACT** that the gasoline you buy, **any** gasoline, has sulphur in it—forming one of the deadliest metal-eaters known to science! And every time you put your foot on your gas pedal—that gasoline starts manufacturing deadly sulphuric acid right inside your engine! Yes, enough sulphur is in a tankful of gas to completely dissolve a 3-inch nail of solid iron! Yes, and this is exactly what that acid eventually does inside your engine . . . this is exactly how that acid begins to eat away at the metal parts of your engine . . . how it chews away at your valves, pistons and cylinders — and then drops those chewed-up particles of steel and iron into your oil line — where it thickens the filth and grime that chokes and clogs every breathing, moving part of your engine!

Yes, this dirt and grit seeps through your filter and circulates with your oil! **This is the filth that helps foul your sparkplugs and scars your cylinder walls! This is the black, hard grime that coats your pistons, clogs your oil lines, wears grooves into your bearings! Yes, these are the sludges and gums that choke your valves . . . that prevent your engine from breathing and rob it of its real power . . . that gnaw away at the joints and bearings of your engine . . . that set you up for $100 . . . $200 . . . $300 repair bills!**

At Last! Science Gives Your Engine New Pep, Power— Years More Life!

And this was the problem that engineers wrestled with for years before one dedicated man of science stumbled across the answer to this acid problem! Working on an aircraft research project—this scientist discovered that certain



YES! This thrilling new automotive miracle actually gives your present car up to 100,000 miles of blazing new power without a single major repair! Up to 7 more gas miles per gallon! Up to 6,000 miles without an oil-change! Impossible? Test it yourself — without spending one single penny! The dramatic documented facts are on this page!

metallic elements actually have the ability to **DESTROY ACIDS** through **chemical action!** Immediately this scientist knew he had the answer to the most vexing automotive problem of our time! By refining and processing and fusing these acid-killing metallic elements into a special magnesium aluminum core—and then adding a powerful permanent Alnico magnet to the tip of it to pick up the pieces of metal that contaminate your oil — this remarkable scientist had invented one of the greatest power-saving, money-saving automotive miracles known to man! Small enough to hide in the palm of your hand—it was simply and quickly attached to the oil drain plug of one car after another—in one test after another—and the results were almost too thrilling to believe! **The Canadian Government tested a similar principle on their own cars—saw those test-cars run 17,000 and 20,000 miles without ever needing an oil-change—and that was proof enough! Yes, the Canadian Government actually approved and licensed that amazing new devlopment!**

If you could visit one of the most creative automotive laboratories in America, you could see just how fantastically effective and powerful this scientific acid killer actually is! In front of your very own eyes, engineers would take this tiny miracle of science—drop it into a beaker full of engine-eating acid—and in a matter of seconds you would see for yourself how that deadly acid begins bubbling and foaming . . . how all the punch and poison is being knocked right out of that acid and being rendered harmless!

Just imagine this simple proof being duplicated inside your car —on every vital part of your engine! **JUST IMAGINE THIS THRILLING NEW ACID KILLER KEEPING YOUR OIL CLEANER AND PURER FOR UP TO 6,000 MILES WITHOUT A CHANGE . . . just imagine it keeping the same set of sparkplugs free of filth for five years . . . your rings and pistons for 7 years . . . yes, just imagine this amazing new ACID KILLER keeping your valves free of choking carbon and grime—letting your engine breathe freely and cleanly with the full throbbing horsepower it's really capable of!** Yes, friends, is it any wonder that this thrilling new scientific development can give your engine up to **100,000 MILES WITHOUT A SINGLE MAJOR REPAIR**—that it can actually start saving you up to $300 a year on gas, oil and costly repairs — with the very same car you are driving today — **without your spending one single penny to prove it!**

Don't Spend a Penny! Test It Absolutely Free for 30 Full Days!

That's right! You send no money for your MAGNA POWER DRAIN PLUG—all you do is simply **try it for one full month** — entirely at our risk! What's more, any gas-station attendant will quickly attach MAGNA POWER to your crankcase entirely without charge! Then you drive off and for the next 30 days give MAGNA POWER the toughest tests you can think of! Test it in stop-and-go driving . . . against other cars pulling away at the lights . . . up steep hills . . . on the open highway! If after one full month, you're not absolutely convinced that MAGNA POWER is giving your engine blazing new power . . . jackrabbit starts and split-second takeoffs — you simply return MAGNA POWER — you didn't spend a penny for it to begin with! But if 30 days of test driving has absolutely convinced you that MAGNA POWER **can** add years to every vital part in your engine—that it actually can save you up to $300 a year on gas, oil and costly repairs—then and only then do you simply send us the amazingly low price of $4.98—and MAGNA POWER is yours to keep! You have nothing to risk . . . nothing to lose! And you have year after year of thrilling new power driving to gain! So ACT NOW!

Users Send DOCUMENTED RESULTS!

90,000 MILES AND ENGINE GOING STRONG!

"I have a Magna-Power in my Hudson and also my Plymouth and they are both running and in perfect shape. The Hudson has 90,000 miles or more and the Plymouth has 65,000. Neither one has had the head off."
C.A.W. Jefferson City, Missouri

"I . . . received two of the Magna-Power Plugs from you and installed them in a 1950 Studebaker Landcruiser which now has 138,000 miles registered and also in a 1953 Stude Champion which we just recently traded in with the speedometer showing 74,600 miles . . . I must state that from all existing appearances, very desirable results were secured from these units." *R.H.J. Des Moines 9, Iowa*

OVER 6,000 MILES ON THE SAME OIL!

"My 1951 Hornet had almost 50,000 hard miles on when the Magna-Power plug was installed. It ran over 6,000 miles on the same oil. Ordinarily, the oil would have been black after a few hundred miles." *Bernard H. Hutchins West Palm Beach, Florida*

"Thought you might be interested . . . Put Magna-Power on my 1955 Plymouth at 500 miles. Now have 21,000 on speedometer. No oil used last 4,000 miles—change approximately each 5,000. Garage mechanic astounded and checks everytime I put in gas. Has accused me of adding oil. Gas mileage 21 miles to gallon."
G.E.B. Branford, Conn.

NOW GETS 22 MILES PER GALLON!

"My '47 Ford . . . gets fantastic gas mileage now, 22.5 miles to the gallon, it used to get 15 . . . your neutralizer is the only thing I can account for the radical change . . ."
Thad R. Weidman, Guttenberg, Iowa

"Have 1955 Studebaker President with 20,000 miles on it. Plugs have never been cleaned, changed or altered—same points—no adjustment. Get 20 miles per gallon. Uses no oil."
T.B.H. Johnson City, Tennessee

"In October of 1953 I purchased a Magna-Power for my 1941 Ford V-8 and I want to say this much—it is the best single investment I ever made for an improvement on the engine of any car. My original engine is now over five years old. It will get 25 miles per gallon if I drive for mileage . . ."
E.J.M. Oklahoma City, Okla.

73,000 MILES WITH SAME SET OF SPARK PLUGS!

"We have a fleet of four trucks and two salesmen's cars, all equipped with your marvelous acid neutralizer and have had exceptional success with them. One car, a 1953 Hudson Hornet with twin "H" power now has 73,000 on one set of spark plugs. Enough said."
H.V. Laundry Machinery Co. Albuquerque, New Mexico

"The plugs were removed at the time I traded the 1953 Plymouth off and they had gone 57,500 miles and were cleaned once in that period. It was still using no oil when I traded it in at approximately 80,000 miles and getting top performance." *E.B.L. Monroe, Wisconsin*

LIKE HAVING A NEW CAR!

"I now have 80,800 miles on my '50 Buick. Due to the fact that I have always used the same oil, I want to give credit to this wonderful Magna-Power plug you sell. My car seems to have more power and the hydraulic lifters are very quiet. The motor has never been gone into for a valve job. Frankly, it's almost like having a new car." *C.E.C. Kansas City, Mo.*

"I recently purchased a Magna-Power acid neutralizer for my Olds 88. In a little over 500 miles the results are amazing, faster pick up, cleaner oil, quieter engine. The engine has taken on new life. In fact, I am an auto mechanic for over 20 years and have been turning thumbs down on most such things until I read about Magna-Power."
L.L.M. Philadelphia 31, Pa.

PHOTOGRAPHIC PROOF!

Drive Up to 5 YEARS With ONE Set of Spark Plugs!

IMAGINE! The spark plug on the left was removed from an ordinary car after 5,218 miles . . . its firing point is pitted . . . choked with filth . . . barely able to give half the spark it should! But the plug on the right—taken from a MAGNA POWER equipped car—is sparkling clean after 61,810 miles—still able to give full, hot, firing power on every single stroke! Discover how every single part in your engine can last years longer than you ever dreamed possible!

YOURS FREE FOR 30 DAYS!

Send No Money! Don't Even Pay the Postman!

MOUNT VERNON RESEARCH LABORATORIES, DEPT. 254
P. O. BOX 732, BALTIMORE 3, MARYLAND

Yes, I want you to send me ABSOLUTELY FREE your thrilling new MAGNA POWER! I understand that I don't even pay the postman one single penny when MAGNA POWER is delivered—that I simply try it on my present car for 30 full days entirely at your risk! If at the end of one full month I am not convinced that it can help give my present car up to 7 MORE GAS MILES PER GALLON . . . UP TO 6,000 MILES WITHOUT AN OIL CHANGE . . . AND UP TO 100,000 MILES WITHOUT A SINGLE MAJOR REPAIR— I simply return the used MAGNA POWER—it didn't cost me a penny to begin with! But if 30 full days of test driving HAS absolutely amazed and convinced me that MAGNA POWER CAN add years to every part in my engine . . . can actually save me up to $300 a year on gas, oil and costly repairs . . . can give my present car the blazing new pep, power and performance that I never dreamed possible . . . then and only then do I send you the amazingly low price of $4.98 and MAGNA POWER is mine to keep for year after year of power driving!

MAKE OF CAR ..... YEAR .....

NAME ..... *(Please Print)*

ADDRESS .....

CITY ..... ZONE ..... STATE .....

Please send me two MAGNA POWERS. If satisfied after 30 days, I send only $8.98. *(This will be a savings of $1).*

MAKE OF 2nd CAR ..... YEAR .....

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We'll send YOU a Money-Making "Shoe Store" Business FREE!

Just 8 easy orders a day bring you up to $960 a month!

RUSH COUPON FOR FREE BUSINESS OUTFIT!

Here's an exciting business for the man who wants to make money with a product he can sell to EVERYBODY...who wants steady cash profits EVERY MONTH...easy REPEAT SALES to the same customers...a BIG INCOME supplemented by monthly BONUS CHECKS and exciting PRIZES! We'll set you up in a profitable Mason "Shoe Store" business at **our** expense. You need no previous experience...you don't have to invest a cent! James Kelly of Ohio took so many orders for these Nationally-Advertised shoes he made $93.55 in ONE evening! Fred Mapes makes $5 to $10 every hour he devotes to his Mason Shoe business!

It's **easy** with our way of selling shoes. We set you up in a complete "shoe store" business you can run from your home. **We** carry the stock and ship the shoes. All you do is show the styles to your family, friends, people where you work, etc....and take orders. You have a profitable business with no rent, light bill, clerk hire or other costs to worry you. **You keep 100% of your profit!**

Here's why you'll make money!

● You offer **170** comfortable fast-selling styles...far more than a store! ● You have an amazing range of **sizes (2½ to 14)** and **widths (AAAA to EEEE)**. Even hard-to-fit people can buy from you! ● Because we carry over 200,000 pairs in stock, your customers get **exactly** what they want ...no misfits or substitutions! ● You feature exclusive Velvet-eez shoes with foamy-soft **air-cushion innersoles** that let you "walk on air." Built for supreme comfort, Mason shoes also feature built-in strong steel shanks, Air-Cushion longitudinal support, Nylon stitching. Advertised in Esquire, Good Housekeeping and on TV, they'll be available **only** from **you**—not sold in stores! ● You save your customers money, and the time they would waste "shopping around" shoe stores.

Take Orders For Over 170 Dress-Sport-Work Shoe Styles!

30 kinds of work shoes! A style for every trade! Special Neoprene, Cork, Cushion soles, heels...ventilated work shoes...even Safety Toe Shoes!

Smart dress, sport styles! The last word in styling! Many fine, unusual leathers. Cool Nylon Mesh styles, moccasins, 2-tones and Cush-N-Crepe soled shoes!

70 Styles for Women! Satisfy almost every taste! Many comfort features. Low-heeled, high-heeled, casuals, service shoes, latest styles!

No wonder you'll have the biggest and best "shoe store" business in town!

MASON SHOE MFG. CO.
Since 1904
Desk MA686, Chippewa Falls, Wisconsin

You'll get a Starting Kit *FREE!*

As soon as we receive the coupon below we'll send you a complete Business Outfit **FREE and postpaid!** It features the entire Mason Collection in full color; contains 10-second Air Cushion demonstrator, valuable Booklet chock full of how-to-make-money hints, special Measuring Board, advertising reprints...everything else you need to start making cash profits from the first hour! We'll also show you how to earn monthly **Bonus Checks** and win costly prizes **Free!**

Mason Shoes will be available ONLY from You!

Because Mason Shoes are not sold in stores, you get **repeat** orders from delighted customers almost automatically! Steady cash profits every month! Since everyone you know wears shoes...**EVERYBODY IS A PROSPECT!** No wonder this is the perfect business for you: a quality product everybody needs...backed by the famous Good Housekeeping Guarantee Seal...one you can take orders for 12 months of the year. Want to see how much money **you** can make? For a 2¢ postcard you can try it NOW ...start your exciting business **right away!**

RUSH THIS STAMP FOR YOUR *FREE* BUSINESS OUTFIT!

Mr. Ned Mason, Vice President
Mason Shoe Mfg. Co., Desk MA686
Chippewa Falls, Wisconsin

Yes, I'd like up to $960 a month for just 8 orders a day...and MORE! Please start me in an exciting "Shoe Store" business by rushing my Complete Shoe Business Outfit FREE and postpaid so I can start making money my first hour!

Name_____

Address_____

Town_____ State_____